



PROCESS EVALUATION REPORT FOR CON EDISON'S MULTI-FAMILY ELECTRIC AND GAS PROGRAM

Prepared for:
Con Edison



Navigant Consulting, Inc.
1717 Arch Street
Suite 4800
Philadelphia, PA 19103
215.832.4400
www.navigantconsulting.com

KEMA, Inc
122 West Washington Ave,
Suite 1000
Madison, WI 53703
608.259.9152
www.dnvkema.com

Final Report
February 2013

TABLE OF CONTENTS

Executive Summary	3
1.1.1 Program Planning and Design.....	5
1.1.2 Infrastructure Development	8
1.1.3 Marketing and Customer Acquisition.....	10
1.1.4 Program Delivery	13
1.1.5 Satisfaction with the Program.....	16
1.1.6 Interaction with Other Programs.....	18
2 Introduction.....	20
2.1.1 Background	20
2.1.2 Program Description	20
2.1.3 Evaluation Objectives.....	27
2.1.4 Overview of Methodology	28
2.1.5 Organization of Report.....	30
3 Analysis and Findings.....	32
3.1.1 Summary of Participation and Program Achievements to Date.....	32
3.1.2 Infrastructure Development	49
3.1.3 Marketing Approaches.....	53
3.1.4 Program Delivery	65
3.1.5 Satisfaction with the Program.....	85
4 Conclusions and Recommendations	93
4.1.1 Program Planning and Design.....	93
4.1.2 Infrastructure Development	96
4.1.3 Marketing and Customer Acquisition.....	97
4.1.4 Program Delivery	100
4.1.5 Satisfaction with the Program.....	103
4.1.6 Interaction with Other Programs.....	104
Appendix A. Participant and Nonparticipant Interview Guides.....	106

EXECUTIVE SUMMARY

This report presents the results of the process evaluation for the Multifamily Electric and Gas (MFEG) program administered by Con Edison as part of their Energy Efficiency Portfolio Standard (EEPS), as ordered by the New York Public Service Commission (DPS).¹

PROGRAM DESCRIPTION

The New York Public Service Commission (NYPSC) approved the MFEG program (initially called the Refrigerator Replacement Plus program) in July 2009. The initial program goal was to promote energy efficiency in existing multifamily buildings with 5 to 50 units. In June 2010, the NYPSC approved an expansion of eligible multifamily buildings to include those up to 75 units. In its original design the MFEG program was to consist of four components:

1. Individual unit energy surveys which include a review of the refrigerator, air conditioner, lighting and plug load opportunities, as well as direct installation of low cost electric and gas energy efficiency measures in dwelling units primarily based on Con Edison's Residential Direct Install Program;
2. Replacement of old inefficient refrigerators with new ENERGY STAR® units, if eligible (see discussion below);
3. Customer rebates for high efficiency room air conditioners, and;
4. Prescriptive rebates for common area and specific building system measures.

While the free energy surveys, the direct installations in the dwelling units, and the prescriptive rebates in the common areas have been key components of the program, the refrigerator replacements and the room air conditioner rebates have not, for reasons discussed elsewhere in this report.

The program targets potential new participants through proactive telephone recruitment. The program implementer – the Association for Energy Affordability (AEA) -- has program responsibility to call eligible multifamily property managers/owners and tries to recruit them into the MFEG program. Most frequently AEA staff members will call property managers that

¹ This program is alternatively known as the Multifamily Energy Efficiency (MFEE) program.

fall in one of two categories: 1) property managers who have previously expressed interest in the program, or 2) property managers with whom AEA staffers have an existing relationship. Occasionally they will also attempt to recruit eligible Con Edison customers into the program through cold calls.

The program additionally generates leads through its marketing efforts, such as presentations, or through customer-initiated contact via the Con Edison website, call center, or account managers. The MFEG program has also coordinated with New York City weatherization programs to offer a greater assortment of energy efficiency program options to interested multifamily building owners/managers. Con Edison also coordinates program delivery with multifamily programs operated by the New York State Energy Research and Development Authority (NYSERDA)

The MFEG program achieved 39 percent of its electric savings goal and 26 percent of its natural gas savings goal during the 2010-2011 period (Table 2-1).² Some of the reasons for the program's failure to achieve its energy savings goals are discussed in the Program Design Challenges and Opportunities section of this report. On May 11, 2012 Con Edison submitted a petition to the NY DPS requesting a reduction in the program's 2012-2015 program goals based on the program's 2010-2011 experience and some of the barriers mentioned in this report.³ The petition seeks a 24 percent reduction in the program's 2012-2015 electric goals and a 53 percent reduction in the program's 2012-2015 therm goals.

² It is important to point out that that these achieved energy savings referenced here are *ex ante* savings estimates – savings estimates which have not yet been subject to further adjustment by program evaluators.

³ "Petition of Consolidated Edison Company of New York, Inc. for Approval of Multifamily Program Redesign, Including Modification of Budgets and Targets," PSC Case No. 07-M-0548, May 11, 2012.

Table 2-1:
Con Edison – MFEG
Goals and Reported Achievements: 2010-2011

Energy Savings (Fuel Type)	Program Goal 2010 – 2011	Progress through Year- End 2011	Percent of Goal Achieved
Total Electric Program Savings (MWh)	15,881	6,243	39%
Total Gas Program Savings (Dth)*	250,451	64,503	26%

Source: Con Edison Monthly Scorecard (December 2011) and updated goal information provided by Con Edison staff in a July 2012 conference call. The achieved energy savings referenced here are ex ante savings estimates – savings estimates which have not yet been subject to further adjustment by program evaluators.

EVALUATION OBJECTIVES AND ACTIVITIES

The overall objective of the MFEG process evaluation is to assess the effectiveness and efficiency of program design, delivery and implementation processes. The research and the findings expressed in this report are based upon review of program materials and databases, in-depth telephone interviews with many different program representatives (including utility staff, program implementers at the AEA, and staff at Haggman Advertising (AEA's marketing subcontractor) and in-depth telephone interviews with participating and nonparticipating multifamily property managers/owners. Finally, an evaluator visited the AEA offices and interviewed staff that work on the program there, and also participated in ride-alongs with energy surveyors and installers of program direct install measures to observe program delivery.

KEY FINDINGS AND RECOMMENDATIONS

This section presents the key conclusions and recommendations from the findings and analyses presented throughout the report. These conclusions and recommendations are organized around key research areas. Some of these recommendations require additional on-going program expenditures. Con Edison will need to determine which of these costs are feasible while maintaining a cost effective program.

1.1.1 PROGRAM PLANNING AND DESIGN

The MFEG program has faced a number of significant barriers to gaining greater energy efficiency penetration in the multifamily market. Some of these market barriers are naturally

inherent to the multifamily sector. Other barriers are due to problems with the program's original design where key assumptions about likely sources of program energy savings or the ratio between program rebates and the incremental costs of energy-efficient measures were overly optimistic. The following is a summary of these barriers with more detailed descriptions in the main report.

- *“Natural” multifamily market barriers:* These barriers include the classic “split incentive” barrier where the landlord controls the energy equipment purchase decisions but does not pay the tenant energy bills, complex decision-making structures, dispersed property holdings, and language/ethnic barriers. In addition to these multifamily-specific barriers, more generic market barriers such as “lack of capital” also impact this market sector.
- *Program design barriers:* These barriers include:
 - *Some of the initial assumptions of energy savings opportunities for the program were incorrect:*
 - *Building shell measures:* The original program design had assumed that a large percentage of MFEG program energy savings would come from building shell measures. Yet both Con Edison staff and the program implementers noted that some of the characteristics of the New York City multifamily building stock such as masonry walls and flat roofs significantly limited the opportunities for adding insulation. In its May 2012 petition, Con Edison also claimed that most of these shell measures were not cost effective.⁴
 - *Refrigerators:* Initially the replacement of inefficient refrigerators with ENERGY STAR units was also planned to be a major component of the program (the program was initially called the “Refrigerator Replacement Plus Program”). Yet program implementers subsequently discovered that due to New York requirements for minimum refrigerator efficiency standards that increased the “baseline” efficiency for this measure, the number of program-eligible refrigerators was much smaller than originally thought. This essentially insured that the refrigerator was not a viable

⁴ In the petition Con Edison wrote: “Cost effective implementation of most measures in this [weatherization] design bucket proved prohibitive. Roof/door/pipe insulation can be implemented cost effectively, but acquired savings only contributed to 5% of current gas program.”

measure for the MFEG program with no energy savings claimed for this measure in 2010 and 2011.

- *The projections of measure-specific energy savings for the program preceded the availability of key information needed to develop TRC screening tools:* The MFEG program's implementation plan projected which types of energy-efficient measures would produce energy savings for the program. However, the Con Edison program staff claimed that these projections of measure-specific savings for the program were made before they had key information that was needed for the development of their Total Resource Cost (TRC) screening tools. The possession of this information is now allowing the Con Edison staff to recommend ways to redesign the MFEG program to make it more cost effective. This key information which was not available when the program was first designed included the development of the New York Technical Reference Manual (TRM) which provides instructions on energy savings calculations, the issuing of NY DPS decisions that defined/clarified key inputs for TRC calculations such as Long Run Avoided Costs (LRACs) and administrative costs calculations, and data from actual projects which allowed the MFEG program staff to determine which measure types were producing energy savings and found to be cost-effective by passing the TRC test.
- *The initial program assumptions of what proportion of the measure costs would be covered by the program incentives were too high.* The MFEG program implementation plan indicated that the program incentives would either cover 70 percent of the measure costs or 70 percent of the incremental costs of a wide range of energy-efficient measures. However, when the Con Edison program manager compared these incentive amounts to actual installed measure costs and actual incremental measure costs for projects in New York City, the incentive coverage turned out to be much lower than 70 percent.
- *Changes in program rules have created some difficulties in implementation:* There are a couple of instances mentioned in the body of the report where changes in program rules caused difficulties for the marketing and outreach efforts of the program.
- *Program incentives have been too low to compete with American Recovery and Reinvestment Act (ARRA) weatherization incentives:* Low incentive levels are an aspect of program design that is difficult to correct since incentive levels are usually defined and constrained by program benefit/cost screening assumptions. Yet the fact remains that

the availability of federal stimulus funding complicated delivery of the MFEG program. According to the MFEG program manager, these weatherization incentive dollars were substantially higher than incentives offered through the MFEG program. This forced the MFEG program in some instances to try to “piggy back” on the outreach efforts of the ARRA weatherization programs.

Recommendations for Program Planning and Design

- *The evaluators support Con Edison’s current efforts to redesign the MFEG program to align the program’s energy savings goals with current market realities.* As noted above, in May 2012 Con Edison filed a petition to have the MFEG program’s 2012-2015 energy savings goals revised downward along with a proposal for a new program design. We support this petition because, as detailed in this report (and the petition), many of the original energy savings estimates and measure specifications for this program were not made with all necessary market and regulatory information.
- *Investigate whether adding a financing option would address the reported barrier of lack of capital among customers.* For both participating and nonparticipating multifamily property managers/owners, the most-cited barriers to the implementation of energy-efficient measures were “lack of capital” or cost barriers. NYSERDA’s Multifamily Partnership Program (MPP) has a financing option that can cover up to 25 percent of project costs and the MFEG program should consider offering a similar option. As of June 2012 the NYSERDA MPP program had only one participant taking advantage of it. The NYSERDA program manager said that this low participation rate was likely due to a combination of lack of marketing/promotion of this financing option as well as a lack of need/interest. It should be noted, however, that the NYSERDA program handles, on average, larger multifamily properties than the MFEG program does. It is possible that the companies that own these larger properties have easier access to alternative financing than the multifamily property managers/owners who participate in the MFEG program do.

1.1.2 INFRASTRUCTURE DEVELOPMENT

The evaluation team did a thorough review of the MFEG program tracking database. The findings from this review are discussed in the main body of the report. Our overall conclusion is that AEA’s tracking system for the MFEG program fails to provide an accessible source of information about program activities that are required for evaluation as well as program management purposes. As noted in the subsequent recommendations subsection, we are

recommending a complete overhaul of this database. Some of the problems we found with the current tracking system include:

- *A lack of numeric ID fields that would allow evaluators or program implementers to link data between tables:* There were no numeric ID fields that would allow data from the various data tables (e.g., Contacts, Accounts, Project Pipeline) in the Salesforce tracking database to be linked together or for these tables to be linked with the data in the Excel files that track program participation at the measure level.
- *Much missing contact information for property manager/owner accounts:* The Contacts table from the Salesforce database had half as many records as the Accounts table from this database (each account identified in the database should have at least one contact listed).
- *Nearly half of the Lead Source information is missing:* In the Accounts data table in the Salesforce tracking database 45 percent of the entries for the Lead Source variable (which is supposed to indicate how the prospect heard about the MFE&G program) were either a toll-free number, “Unknown,” or an unspecified “Other.”
- *No “date added” or “date last contacted” fields are included in the Accounts table:* This makes it impossible to determine from the data which accounts require follow up and which accounts should no longer be considered potential participants.
- *Outreach status is not descriptive enough:* There was no indication whether all properties of an owner have been completed or refused or some combination of the two.

Recommendations for Infrastructure Development

The evaluation team recommends that the current MFEG program tracking system be completely overhauled. We recommend moving all data into a single relational database which allows for simple reporting and easy data lookup. The ability to link basic customer information to program activity by the customer is an essential requirement. A simple outline for a relational database that would better suit program and evaluation needs would at the minimum include the following tables and fields:

- Accounts – AccountID (KEY),, Account Name, Lead Source, Outreach Status, mailing address

- Account Contacts – AccountID, Account Name, ContactID (KEY),, Salutation, First Name, Last Name, Title, Work Phone, Cell Phone, Email, Mailing Address, Mailing City, Mailing ZIP, Mailing State
- Project Pipeline – AccountID Account Name, PropertyID (KEY),, Property Name, Property Address, Property City, Property ZIP, Property State, WAP coordination, WAP Agency,⁵ Dwelling Units, Milestones (Y/N), Milestones (dates)
- Spaces/Units - AccountID, Account Name, PropertyID, Property Name, Space/Unit ID (KEY), Space/Unit Address
- Measures – AccountID, Account Name, PropertyID, Property Name, Space/Unit ID, Space/Unit Address, Measure ID (KEY), Measure Type ID, Measure Type, Measure Description, Measure Quantity, Measure kWh, Measure kW, Measure Therms
- Measure Calculations - Measure Type ID (KEY), Measure Type, Measure Description, Savings per Unit.

1.1.3 MARKETING AND CUSTOMER ACQUISITION

Some of high-level findings and recommendations from our review of the MFEG program marketing efforts include:

- *The more generic “Green Team” advertising is benefitting the multifamily program even when this messaging is not specific to the MFEG program or the multifamily sector in general. Our interviews with the program implementers and our observations during the ride-alongs with AEA field staff indicated that the name recognition of the Green Team brand is helping to facilitate program entry into some of the apartment units for direct installs.*
- *However in terms of online information, specific multifamily program messaging may be getting lost within the “Green Team” energy efficiency web landing pages.*
- *Staff at both AEA and their marketing subcontractor, Haggman, reported having a good professional working relationship with Con Edison team members. They rated the marketing communication as frequent and informal, and the approval process as “excellent.”*

⁵ The WAP variables indicate whether projects or contacts originated through AEA’s work with the federal Weatherization Assistance Program.

- *There were some initial problems with follow-up on program leads, but these problems have been resolved.* When the MFEG program was first being launched, Con Edison program staff reported some “hiccups” with the assignment of these program leads among AEA account managers. The Con Edison staff discovered that some of the program leads that they had turned over to AEA were not being contacted in a timely manner. However, Con Edison staff said that they brought this problem to the attention of AEA and it was addressed.
- *Con Edison has refined its in-person outreach efforts to be more targeted at multifamily-specific events.* Interviews with Con Edison staff indicated that over time they have refined their approach to conferences and other in-person events. Early in the program implementation they attended a wide variety of energy efficiency conferences and events including some that did not have a particular focus on the multifamily sector. They were generally disappointed with the results of these efforts in recruiting new multifamily property managers/owners into the MFEG program. Their new approach is to spend more time at the very-targeted multifamily-focused events and spending less time at more generic energy-efficiency events. They are also trying to become more proactive in engaging multifamily property managers/owners in conversation at these events (vs. standing behind a table and handing out flyers, etc.).

Recommendations for Marketing and Customer Acquisition

- *The program should not reduce its in-person outreach activities too much, since there is some evidence that these have been effective.* As noted above, Con Edison is trying to reduce the number of in-person events it attends (e.g., focusing on more multifamily-targeted events vs. generic energy efficiency events) due to the staff’s perception that past in-person outreach efforts have been disappointing. Yet there was evidence from the interviews with participating and nonparticipating multifamily property managers/owners that in-person outreach efforts were the most successful. In the in-depth interviews we asked both the program-aware participants and nonparticipants how they became aware of the MFEG program. The most-cited sources of information among the program-aware participants were word-of-mouth, organizations, and trainings. The most-cited sources of program information among program-aware nonparticipants were the Con Edison website, mail/email, and TV/radio/print advertisements. This suggests that while in-person, face-to-face forms of program outreach are certainly more expensive, they may have a better chance of success than some of the mass advertising approaches.

- *Current efforts to cross-promote other Con Edison programs through the MFEG program could be improved.* The program materials that we reviewed did not seem to be cross-promoting other Con Edison programs. In addition, we did not observe any cross promotion of these programs during the ride-alongs with AEA field staff that we conducted.
- *The program should try to make greater use of email to communicate program information:* Email was the most-preferred means of obtaining MFEG program information for both participating and nonparticipating multifamily property managers/owners.
- *AEA needs to improve how it tracks the source of sales leads:* DNV KEMA staff noted in its review of the program's Salesforce database that the program was not collecting adequate information about how a customer heard about the program. Altogether nearly half (45%) of the listed Lead Sources in the Accounts data table did not indicate how the prospect heard about the program. For example, for nearly 30 percent of the prospects in the database, the Lead Source was listed as a toll-free number (e.g., "MFEEP 1-800 Number" or "MFEEP 1-800 Call Center" or "Con Edison 1-800 Number"). Such entries indicate how the prospects got in touch with the program but they do not indicate how the prospect heard about the program (e.g., website, flyer, print ad, etc.). In addition another 16 percent of the accounts had a Lead Source entry of "Unknown" or an unspecified "Other."
- *The MFEG program should look to expand its efforts to partner with weatherization agencies now that the ARRA funds have been eliminated.* The in-depth interviews revealed that both the Con Edison program staff and the AEA staff had extensive experience working with New York and federal weatherization programs before becoming involved in the MFEG program. In addition, as discussed later in this report, the MFEG program has partnered with the weatherization program in the past. That being said, the elimination of the ARRA funding will likely make the weatherization programs more interested in partnering with programs such as MFEG than they have been in the past. Our interview with the manager of the NYSERDA Multifamily Partnership Program revealed that NYSERDA has recently stepped up its outreach efforts to these weatherization stakeholders for this very reason. We recommend that the MFEG program do the same, if it has not already done so.

1.1.4 PROGRAM DELIVERY

Some high-level findings and recommendations from our review of the MFEG program delivery include:

- *Through the end of 2011 the MFEG program is well behind its program savings goals:* By the end of 2011, the program had achieved 39 percent of its original Megawatt Hour (MWh) and 26 percent of its dekatherm (Dth) savings goals for the 2009-2011 period.⁶
- *There was high dissatisfaction with the energy survey among nonparticipants and some dissatisfaction among program participants.* There was dissatisfaction among both participating and nonparticipating multifamily property managers/owners about the energy surveys, with the most common complaint being that the surveys were not thorough enough or did not provide them with new information. In reviewing the draft report and in July 2012 discussions with the evaluators, the MFEG program manager noted that Con Edison does not advertise the energy survey as an audit in its program materials. He also asserted that the energy survey was never intended to be a “complete audit” but was designed to identify eligible energy-efficient measures and their associated energy savings. Both Con Edison and the evaluators agreed that the fact that NYSERDA was offering a more complete audit to many of these multifamily property managers through its MPP program, and may have confused them and influenced their expectations as to the scope of the MFEG program’s energy surveys.
- *The roles of the Con Edison MFEG program staff has evolved over time.* The Con Edison MFEG program staff recently reported that they now spend less time on day-to-day program implementation issues and more time on program planning, program assessment, savings verification, program re-design, and regulatory compliance issues.
- *The program is achieving more energy savings from the dwelling unit installations than originally expected.* Interviews with the Con Edison program staff indicated that they are achieving a higher percentage of energy savings from the direct installs in the tenant units (vs. the common area measures) than they were expecting.

Recommendations for Program Delivery

- *Con Edison program staff should make sure that program implementers are aware of these energy savings assumptions and policies concerning CFLs:* The evaluator who accompanied the AEA field staff was interested to observe that the direct installers were replacing existing CFLs

⁶ As noted previously, the achieved energy savings referenced here are *ex ante* savings estimates – savings estimates which have not yet been subject to further adjustment by program evaluators.

with the program-rebated CFLs. When they did this, the direct installers explained to the tenants that the new CFLs from the MFEG program provided a higher quality light. Our evaluation team asked Con Edison staff during a follow-up interview if replacing existing CFLs with new CFLs was program policy. The Con Edison staff said that program electric savings estimates assume that CFL are replacing incandescent bulbs and that replacing CFLs with CFLs was not program policy. Following this finding, Con Edison worked with AEA to try to build into the field staff training a reemphasis that that CFL's are to replace existing incandescent bulbs only.

- *The MFEG program would benefit from doing more management of multifamily property manager/owner expectations about what these energy surveys will entail.* Interviews with Con Edison staff revealed that they never envisioned the energy surveys to be comprehensive audits but more as tools to “get a foot in the door” with multifamily property managers/owners. In commenting on the draft report, the Con Edison program manager noted that the MFEG program materials call it an “energy survey” rather than an audit.⁷ He added that the “survey is not designed to be a complete audit, but to provide a statement of program eligible measures and associated savings.”

Yet, as noted above, our in-depth interviews with the participating and nonparticipating multifamily property managers indicated that Con Edison's intended message of trying to downplay the thoroughness of the energy surveys is not carrying through. Many of these property managers were disappointed that the surveys were not more thorough. The NYSERDA MPP does offer a more comprehensive energy audit and this may have influenced the expectations of some of the property managers who received the MFEG energy survey. In commenting on the draft report, the MFEG program manager agreed that this may be a contributing factor. Regardless of the cause of these different expectations, however, the interviews with both participating and nonparticipating multifamily property managers indicated that both Con Edison and AEA could do more to try to manage the expectations of the multifamily property managers/owners upfront about the level of rigor and comprehensiveness of the free energy surveys.

- *Consider offering multifamily property managers/owners a choice between the free energy survey (with the limitations of this survey properly explained) and a more comprehensive energy audit for which the property manager/owner would either share costs or commit to EE implementation:* As noted, the NYSERDA program does offer multifamily property managers/owners a more comprehensive audit. One possible enhancement to the MFEG program would be to give the multifamily property managers a choice between the free energy survey (with the limitations of this energy survey properly explained) and a more comprehensive energy audit similar to the NYSERDA audit in which the property manager would have to either

⁷ For example, one MFEG program flyer reads: “The Con Edison Green Team offers ... energy surveys to show where your building could save energy and money through the program.”

contribute to the cost or commit to the implementation of some energy-efficient measures. Even if most multifamily property managers still selected the free energy survey option, being presented with this option will likely help manage their expectations about what they will receive with the free energy survey.

- *The program should strive for better communications with building supervisors and other onsite representatives of the property managers/owners.* The member of our evaluation team who accompanied the AEA field staff observed multiple instances where the building supervisor appeared confused about what the program was planning to do in his/her buildings and why. This appeared to be due to inadequate communication between the representative of the property management company who signed up for the program and the building supervisor. As discussed elsewhere in this report, there were also instances where the AEA field staff were not able to readily answer some of the building supervisor's questions

It should be noted that these observations were based on only a single day of ride alongs with the AEA field staff. So the sample size of observations is very small. At the same time it is important to observe that the AEA field staff were well aware that an evaluator was accompanying them on their site visits. Therefore one would expect them to "be on their best behavior" and not engage in any practices that might invite evaluator criticism.

Whether these instances of building supervisor confusion were isolated instances or more common occurrences, it is clear that there are general benefits in trying to improve the communications/relationship with the building supervisor. The AEA staff reported that when they can get the building supervisor to accompany them on their rounds, this greatly increases the program access to the tenant units. Ways to improve the communications with the building supervisor might include:

- *Give AEA field staff the name and contact of the person who set up the appointment, just in case there is a problem at the site;*
- *Explain the purpose of the program to the building supervisor:* The member of the consulting team who accompanied the AEA field staff noticed there was a difference in how the energy survey/direct install was received depending on how much communication the AEA team did upfront about the purpose of the program. When the team made the effort to explain to the building supervisor upfront what the purpose of the program was, the energy survey/direct install seemed to go more smoothly than when this did not happen.
- *Proactively seek questions from the building supervisor:* The evaluator who observed the program energy surveys and direct installs thought it would have been helpful to

cultivate the relationship with building supervisors if the AEA team had routinely asked simple questions of the building supervisors such as: “Do you have any questions for us?,” “Is there anything else we can do?,” or “Is there any piece of equipment in your building that you think is not operating in the most energy-efficient manner?”

- *Compile a list of FAQs from building supervisors, develop responses to these FAQs, and then distribute this document to the energy survey and direct install teams:* The evaluator who observed the program audits and direct installs noted that the supervisor asked questions such as: “How do we include our [the property management company’s] engineer in the process? What is the name of the auditor that I will speak with after the report is done? When will the building be flyer for the direct installs?” that the AEA team did not know the answers to. Since these questions seem to be inquiries that many building supervisors might ask, we suggest that the AEA energy survey and direct install teams compile a list of these frequently-asked questions, develop responses to them, and then distribute this document to the energy survey and direct-install teams. Obviously the responses to some questions such as: ‘When will the building be flyer for the direct installs?’ will have to be customized to the project.

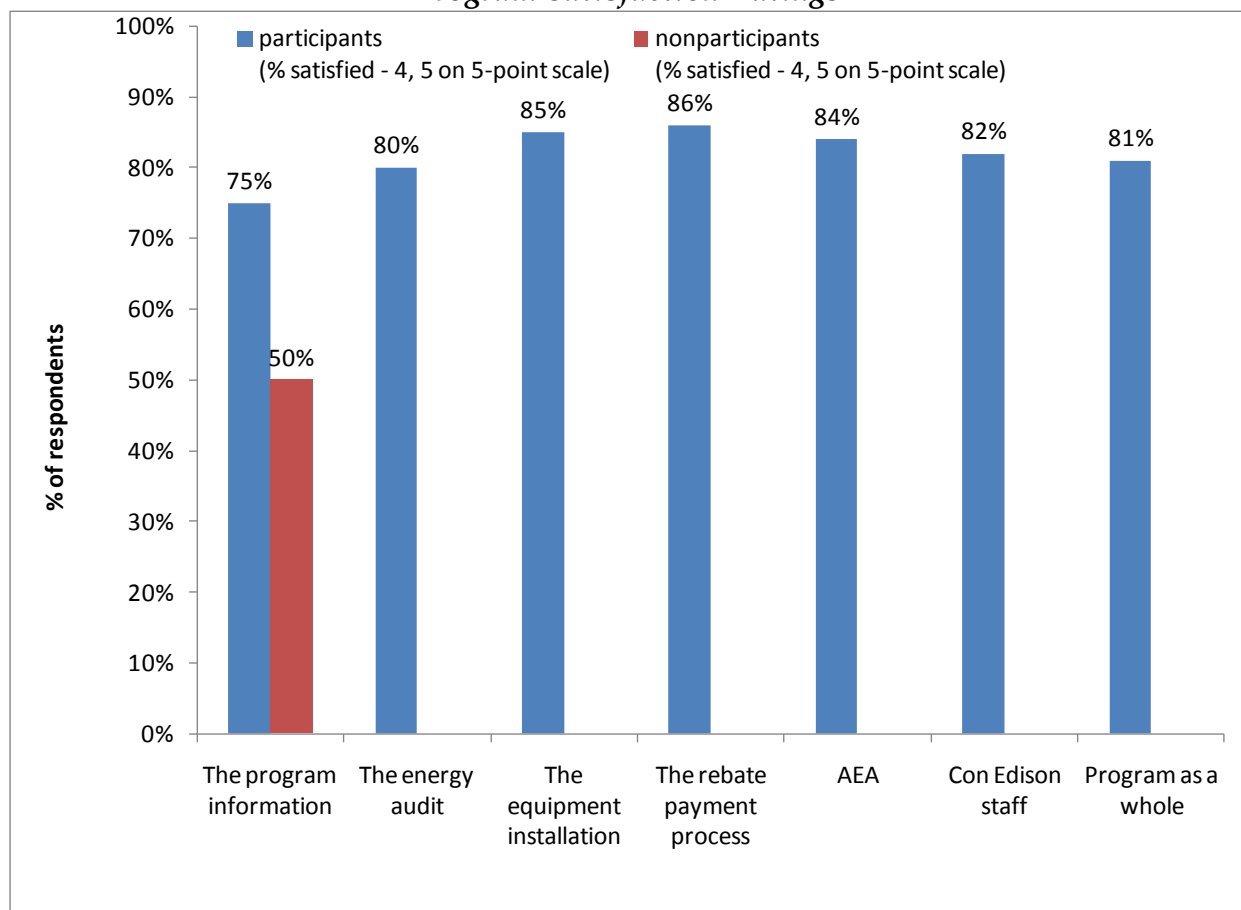
1.1.5 SATISFACTION WITH THE PROGRAM

We asked the program participants about their level of satisfaction with many different aspects of the program. We also asked the nonparticipants about their satisfaction with the program information they received/recalled.⁸ All the respondents were asked to use a five-point satisfaction scale where five indicated “very satisfied” and one indicated “very dissatisfied.” Figure 2-1 shows that the participants reporting they were satisfied with various program attributes (rating of “4” or “5” on the 5-point scale) represented more than three quarters of those surveyed for most of the attributes.

⁸ We also asked the nonparticipants who recalled receiving an audit from the program the open-ended question: “What did you think of the audit?” As discussed in the body of the report, we categorized 70 percent of their open-ended responses to this question as negative. As indicated in the appendices, we used the word “audit” rather than “energy survey” in the interview guides we administered to participating and nonparticipating multifamily property managers. We did this because the term “audit” is more universally used for such activities and we therefore assumed it would be more recognizable to the interviewees than “survey” which can have a wider range of meanings. However, in discussing these interview findings, we have chosen to use the term “energy survey” to make it consistent with the rest of the report.

Based on our experience doing process evaluations with many energy efficiency programs, we consider these satisfaction ratings to be good with the exception of those for the program information. As discussed in the body of the report, most of the participant and nonparticipant dissatisfaction with the program information was due to their disappointment with the energy survey not being more thorough. Our recommendations for addressing these concerns are discussed in the previous subsection. In addition to these responses, one respondent claimed that the website was too technical to understand, another was disappointed that the furnace they installed did not turn out to be program qualifying, a third was disappointed to learn that Con Edison was not paying the full cost of the recommended measures, a fourth had trouble operating the setback thermostats, and a fifth simply stated that “the information just didn't spell things out.”

Figure 2-1
Program Satisfaction Ratings



1.1.6 INTERACTION WITH OTHER PROGRAMS

The following are some findings and recommendations from our evaluation concerning the interaction of the MFEG program with other programs.

- *There should be more cooperation/coordination between the Con Edison and NYSERDA multifamily programs:* Although the MFEG program is limited to multifamily buildings with 5 to 75 units, within this size range the properties can participate in either the MFEG or NYSERDA MPP program. Our interviews with the program managers of both these programs revealed that coordination/communications between the two programs was very ad hoc, limited and “unsystematic.” To insure multifamily property managers/owners are not “double-dipping” in these two programs with the same building, the programs seemed to rely either on the self-reports of the property-management companies that they are not doing this or on the self-policing efforts of installation contractors who work with both programs.⁹ When asked whether they share/compare their program tracking data, both program managers said they do not. One of them said that they were waiting for a statewide database that the DPS was developing. This coordination/cooperation is especially important because of recent NYSERDA plans to focus its MPP program more on the small-to-medium-sized properties that the Con Edison MFEG program is currently targeting.

However, discussions with Con Edison about the draft report revealed that a much closer “operational” collaboration between the MFEG and MPP programs would be difficult. This is because the MPP operates as a custom program and therefore does not have to adhere to the same energy savings assumptions that appear in New York’s TRM.

- *The MFEG program should look to expand its efforts to partner with weatherization agencies now that the ARRA funds have been eliminated.* The in-depth interviews revealed that both the Con Edison program staff and the AEA staff had extensive experience working with New York and federal weatherization programs before becoming involved in the MFEG program. In addition, as discussed later in this report, the MFEG program has partnered with weatherization programs in the past. That being said, the elimination of the ARRA funding will likely make the weatherization programs more interested in partnering with programs

⁹ It should be noted that a given property management company can participate in both programs via different buildings. In discussing the draft version of this report with Con Edison staff, it was revealed that Con Edison has an established protocol for checking for “double-dipping” between the EEPs programs and the targeted DSM programs. As of July 2012 Con Edison staff had only been doing these checks for the Small Business Direct Install (SBDI) program, but they were planning to expand these checks to the Commercial and Industrial program fairly soon. A 2012 audit of Con Edison also recommended that these double-dipping checks be expanded to other programs. The MFEG program literature does notify customers that if they participate in the MFEG Program they cannot participate in other multifamily programs. However, as of July 2012 Con Edison was not actively checking the MFEG program for double dipping.

such as MFEG than they have been in the past. Our interview with the manager of the NYSERDA Multifamily Partnership Program revealed that NYSERDA has recently stepped up their outreach efforts to these weatherization stakeholders for this very reason. We recommend that the MFEG program does the same, if it has not already done so.

2 INTRODUCTION

This report presents the results of the process evaluation of the Multifamily Electric and Gas program administered by Con Edison.

2.1.1 BACKGROUND

In May 2007 the New York Public Service Commission (DPS) initiated a proceeding to design an electric and natural gas energy efficiency portfolio standard (EEPS). This order was in response to then-Governor Eliot Spitzer's goal of reducing energy usage 15 percent by 2015. The responsibility for administering the new programs was split between the investor-owned utilities and the New York State Energy Research and Development Authority (NYSERDA). On June 23, 2008 the PSC issued an order establishing the EEPS target, which approved the EEPS programs and required utilities to file their program proposals within 90 days.

The New York Public Service Commission (NYPSC) approved the MFEG program (initially called the Refrigerator Replacement Plus program) in July 2009. Con Edison filed its implementation plan in September 2009 (which was later revised). Con Edison hired its MFEG program manager in November of the same year, and began marketing efforts to create a project "pipeline" of roughly 500 buildings before the year's end. Through this marketing effort, which ran until May 2010, the program conducted site visits with 35 buildings of various sizes to assess energy efficiency opportunities. Con Edison selected AEA as its primary implementation contractor in May of 2010. Through its existing relationships, AEA brought additional "pipeline" opportunities to the MFEG program.

2.1.2 PROGRAM DESCRIPTION

When Con Edison initially created and received approval for the Refrigerator Replacement Plus program in July 2009, the program goal was to promote energy efficiency in existing multifamily buildings with 5 to 50 units. The program was eventually renamed to the Multifamily Electric and Gas program. In June 2010, the New York Public Service Commission ("Commission") approved an expansion of eligible multifamily buildings to include those up to 75 units, and the program claimed its first energy savings through common-area lighting project in August 2010. The New York Department of Public Service (DPS) is the oversight agency for program evaluation activity.

In its original design the MFEG program was to consist of four components:

1. Individual unit energy surveys which include a review of the refrigerator, air conditioner, lighting and plug load opportunities, as well as direct installation of low cost electric and gas energy efficiency measures in dwelling units primarily based on Con Edison's Residential Direct Install Program;
2. Replacement of old inefficient refrigerators with new ENERGY STAR® units, if eligible (see discussion below);
3. Customer rebates for high efficiency room air conditioners, and;
4. Prescriptive rebates for common area and specific building system measures.

While the free energy surveys, the direct installations in the dwelling units, and the prescriptive rebates in the common areas have been key components of the program, the refrigerator replacements and the room air conditioner rebates have not, for reasons discussed elsewhere in this report.

The program targets potential new participants through proactive telephone recruitment. AEA has program responsibility to call eligible multifamily property managers/owners and tries to recruit them into the MFEG program. Most frequently AEA staff members will call property managers that fall in one of two categories: 1) property managers who have previously expressed interest in the program, or 2) property managers with whom AEA staffers have an existing relationship. Occasionally they will also attempt to recruit eligible Con Edison customers into the program through cold calls.

The program additionally generates leads through its marketing efforts, such as presentations, or through customer-initiated contact via the Con Edison website, call center, or account managers. The MFEG program has also coordinated with New York City weatherization programs to offer a greater assortment of energy efficiency program options to interested multifamily building owners/managers. Con Edison also coordinates program delivery with multifamily programs operated by the New York State Energy Research and Development

Authority (NYSERDA), although as discussed elsewhere in this report this coordination could be improved.¹⁰

Table 2-1,

Table 2-2, and

Table 2-3 show the services and financial incentives provided by the MFEG program for both multifamily dwelling units and multifamily common areas.

Table 2-1:
Measures That Are Typically Direct Installed
with the MFEG Program's Dwelling Unit Energy Surveys

Measure	Eligibility	Incentives
Energy Survey	SBC-paying customer	Free
Compact fluorescent lamp	Energy Star®	Six installed free
Smart Strip ¹¹	N/A	Free
Low-flow showerhead	≤ 1.25 GPM	Free
Dual spray swivel kitchen aerator	≤ 1.25 GPM	Free

¹⁰ The most prominent NYSERDA multifamily program is the Multifamily Performance Portfolio (MPP) program, which is available to all New York multifamily properties with five or more residential units. The program offers multifamily property managers/owners a comprehensive whole- building assessment which is used to develop a Energy Reduction Plan which specifies energy-efficient measures needed to achieve energy savings of 15% or more. Approved properties can receive incentives that include a flat payment of up to \$20,000 plus an additional \$600 per unit incentive (or \$1.50/sq. ft. for new construction).

¹¹ Smart strips are power strips with a control device outlet and switched outlets that automatically shut down when the control device is shut down. Con Edison provides each customer one smart strip which can be used for computers and peripherals or entertainment systems.

Table 2-2:
Eligible Refrigerator and Room Air Conditioner Measures and Incentives
for the MFEG Program

Measure	Eligibility Criteria	Incentives
Refrigerator pick up and disposal	Working unit; > 10 cubic feet, 10+ years old ¹²	Free
New refrigerator -- in rent-controlled apartments	Energy Star®	Free
New refrigerator -- in rent-stabilized apartments	Energy Star®	\$200/tenant and \$125/landlord; or \$325/landlord with "1/40" rule waiver ¹³
New refrigerator -- free market, rental and resident-owned units (condos/coops)	Energy Star®	\$100/landlord or condo/coop owner
Room air conditioner: > 10,000 Btu ¹⁴	Energy Star®	\$30/unit

¹² The refrigerators must also be considered high energy users based on a Con Edison survey. To date Con Edison has not done any refrigerator replacements or paid any refrigerator rebates through this program. This is due (according to Con Edison staff) "to the imposition of the TRC test post approval of the program the Company found that it was unable to provide the appliance at an incentive level that would be attractive to building owners and residents." In one interview the MFEG program manager said that the NYPSC extended the minimum age of the refrigerators to 17 years.

¹³ The 1/40 rule allows landlords in rent stabilized apartments to impose small rent increases so that they can recover their out-of-pocket capital costs for minor tenant unit upgrades.

¹⁴ The room air conditioners have not been an active measure in the MFEG program. The MFEG program manager explained: "Measures such as the room AC in the program were contemplated to be done on a bulk basis. In that during the assessment a recommendation would be made for the required replacements and a shipment would be made to the building and the program would take care of removal and disposal and process the rebates. In operation except for one master metered building there was no great interest in either management or residents participating in this type of program." The program manager noted that Con Edison also has a separate Room AC program and in its May 2012 petition to redesign the MFEG program Con Edison wrote: "Customers in this [Room AC] segment generally participate in the Room AC program, rather than the MFEE Program where building wide cooperation is necessary."

Table 2-3:
Eligible Common Area and Building System Measures and Incentives
for the MFEG Program

Measure	Eligibility Requirements	Incentives
Energy Survey	SBC-paying customer	Free
Building Shell Improvements (Gas heating customers)	Must meet TRC of greater than 1.0	20% of project, max \$10,000
Cooling Tower-Decrease Approach Temperature	6 Degrees Fahrenheit	70% of incremental measure cost
(DX) Packaged Air Conditioner System	Minimum 11.0 EER	
HE Fixtures/Design	Above federal code by 15%	
Motor – Premium Efficiency	PE Motors for HVAC Applications	
VSD Centrifugal Chiller (\geq 300 tons) with Load control tower	Water cooled VSD centrifugal chiller (0.461 kW/ton)	
High Efficiency Gas Furnaces	AFUE \geq 90%	
High Efficiency Boilers (Steam)	AFUE \geq 82%	
High Efficiency Boilers (Hot Water)	AFUE \geq 85%	
Gas Heating and Hot Water Controls	N/A	
Bi-Level Control, Stairwell Lighting	50% Lighting power during unoccupied time	70% of measure cost
Direct Digital Control System-Wireless Performance Monitoring	Energy Management System DDC Retrofit	
HE Fixtures/Design	Exceeds Federal code	
LED Exit Lighting	5 Watts	
Motor - Pump & Fan System – Variable Frequency Drive	Pump And Fan System Optimization w/ VFD	
Occupancy Sensor Control, Fluorescent	Occupancy Sensor Control, Fluorescent	

Program Goals and Objectives

The MFEG program Implementation Plan lists the program's energy savings and participation goals for the 2009-2011 program period.¹⁵ These included:

- *Energy savings goals:* The Implementation Plan has energy savings goals for the 2009-2011 period of 24,176 MWh and 250,541 dekatherms. The New York DPS later approved a reduction of the electric savings goal to 15,881 MWh.
 - *Electric savings:*
 - The plan projected that 39 percent of its electric savings would come from dwelling units, with most of these dwelling-unit savings coming from measures that were direct installed during the free energy surveys. The plan projected that the remaining 61 percent of the electric savings would come from common area measures, with most of these savings coming from either variable frequency drives (VFDs) or high-efficiency lighting fixtures and design.
 - However, when we pulled our survey sample frame in September 2011, the proportion of electric savings from the dwelling units was higher than had been projected (49% vs. 39%). In addition while high-efficiency lighting fixtures were a large contributor (92%) to program electric savings in the common areas, VFDs/motors only accounted for 2 percent of common area electric savings.
 - *Gas savings:*
 - The plan projected that all of the 250,241 dekatherms of energy savings would come from common area measures, with the vast majority of these savings (92%) coming from building shell improvements for gas heating customers.
 - Yet when we pulled our survey sample frame in September 2011 the proportion of gas savings from the dwelling units was much higher than had

¹⁵ *Refrigerator Replacement Plus Program Implementation Plan*, Consolidated Edison Company of New York, Inc. Case Nos. 08-E-1127 & 09-G-0363, revised January 5, 2010, p. 6.

been projected (50% vs. 0%). As discussed elsewhere in this report, the implementation of most of the shell measures proved unrealistic due to cost effectiveness barriers and building construction characteristics. Our September 2011 sample frame found shell measures (roof insulation and weather-stripping) only accounting for 9 percent of total program gas savings. The top contributors to gas savings were low-flow showerheads and faucet aerators (50%), followed by Energy Management Systems (19%) and then high-efficiency boilers (12%).

- *Program activity/participation goals:* To achieve these energy savings goals, the Implementation Plan projected that the program would need to install a certain quantity of energy-efficient measures. These included:
 - *Dwelling unit measures:* To achieve its dwelling unit energy savings goals, the Implementation Plan projected that the program would need to complete 22,178 energy surveys, 4,480 refrigerator replacements, and 16,630 air conditioner rebates. As noted elsewhere in the report, strict restrictions on the age and energy efficiency of the refrigerators eligible for program replacement made this measure a non-factor in the program. Con Edison's separate Room AC program also competed with the MFEG program for the room air conditioner measure. There were no refrigerators or room air conditioners in the program tracking data we received in September 2011.
 - *Common area measures:* To achieve its common area energy savings goals, the Implementation Plan projected that the program would need to complete energy surveys in 599 buildings and common area measures in 1,267 buildings with the most common measures being gas heating and hot water controls and thermostat setbacks (338 buildings) and building shell improvements (330 buildings). As noted above, most of the program gas savings came from low-flow showerheads and faucet aerators.
- *Other goals:* In addition to these quantitative goals, the Implementation Plan also implied some more qualitative objectives for the MFEG program in its description of the "Objectives of the Implementation Plan." These qualitative goals included:

- “offering customers a logical continuum of actions coupled with prescribed rebates for cost-effective efficiency strategies.”
- “achiev[ing] depth of savings and develop customer, trade ally and stakeholder relationships through training, education, and Con Edison website and customer support.”
- “support of the local economy through helping to reduce customer utility costs, utilizing local labor and stimulating trade ally business whenever possible and promoting the adoption of high quality equipment.”
- “the integration of the program with demand response and ongoing work with NYSEERDA, the New York Power Authority (NYPa), and the New York Independent System Operator (NYISO) as well as other programs in the state.”
- “provid[ing] information on the components of Con Edison’s programs as required by the Commission.”

2.1.3 EVALUATION OBJECTIVES

The overall objective of the MFEG process evaluation is to assess the effectiveness and efficiency of program design, delivery and implementation processes to achieve the program’s outcomes. The evaluation seeks to provide clear and actionable recommendations to support the program in improving operations and meeting its savings goals.

The process evaluation addressed the following program areas:

- Program planning and design
- Infrastructure development
- Marketing and customer acquisition
- Program delivery
- Satisfaction with the program
- Interactions with all other available programs.

Con Edison is committed to meeting its program goals and is most interested in process evaluation findings that will assist them in accelerating program activity. With this in mind, DNV KEMA has prioritized process evaluation activities that are likely to result in program recommendations that meet that objective.

2.1.4 OVERVIEW OF METHODOLOGY

The research and the findings expressed in this report are based upon the following evaluation activities:

- Review of program planning and marketing materials,
- Review of program tracking system, data, and other program delivery documents,
- In-depth interviews with program implementers including:
 - Con Edison MFEG program manager and program staff (three completed, July 2010, September 2010, and April 2012);
 - AEA staff (four interviews completed, June 2011 to August 2011, some with multiple AEA staffpersons participating);
 - Additional program subcontractors -- PR and marketing staff (two staff members at Haggman Advertising completed, July 2011); and
 - The manager of NYSERDA's Multifamily Performance Partner program (completed April 2012).
- In-depth interviews with:
 - Program participants – multi-family property owners and managers (31 completed, December 2011 to February 2012); and
 - Program nonparticipants – multi-family property owners and managers (26 completed, December 2011 to February 2012).
- October 2011 field observations of AEA staff doing energy surveys and direct installs .

The August 2011 sampling memorandum contains more details on how this sample frame was developed.¹⁶ Table 2-4 shows the total participant and nonparticipating populations at the time that the sampling plan was developed in August, the number of targeted interviews by segment and sector, and the actual number of completed interviews.¹⁷ DNV KEMA removed from the sample frame any Con Edison customers who had already been contacted for previous telephone surveys or interviews within the last year. Based on the request of Con Edison and their implementation contractor AEA, we used a fairly narrow definition of “nonparticipant.” This definition is discussed below.

Table 2-4:
Multifamily Property Manager
Segments, Strata, Samples and Targets Completes

Segment	Stratum	Sample Population August 2011	Target Completes	Completes
Participating Property Managers/Owners	In-Unit Measures Only	49	13	14
	Common Area Measures Only	43	13	17
	Common Area and In-Unit Measures	15	4	-
	Total	107	30	31
Nonparticipating Property Managers/Owners	All	132	30	25

DNV KEMA completed interviews with a stratified random sample of participants to develop an unbiased representation of the MFEG program population. We targeted participating property owners based on whether they installed common area measures, in-unit measures or both their properties. Given the participation numbers at the time the sample was pulled (September 2011) and a high refusal rate, however, DNV KEMA needed to call all MFEG program participants to reach the target number of completed interviews.

¹⁶ Memorandum from Consulting Team - Con Edison Energy Efficiency Program Evaluation to Steve Mysholowsky of Con Edison, “Multi-Family Electric and Gas –Population Description and Sample Plan,” August 10, 2011.

¹⁷ Because we pulled the sample frame in September 2011, the final sample population numbers were slightly different than those that appear in the August 2011 sampling memorandum.

For the nonparticipant interviews, since interviews with eligible customers who are unaware of the program may be of little benefit to the evaluation, we limited our interviews to what we assumed were program-aware nonparticipants. These included property managers or owners who had been listed as potential participants at one time by inclusion in the program's Salesforce prospect database. This database was used by the MFEG program as a repository of multifamily property managers/owners who had at one time expressed interest in the program, whether through unsolicited calls to the Con Edison or MFEG program call centers, or through Con Edison's or AEA's outreach efforts. In most cases, but not all cases, the property manager/owner had submitted a program application form and had received a free energy survey. The database also allowed the program to track the progress of these multifamily property managers/owners through the various stages of program participation (e.g. application received, eligibility confirmed, energy survey completed, etc.).

AEA classified the nonparticipants in this Salesforce database as "active" (90% of all nonparticipants), "unresponsive" (5%), "uninterested" (4%), "ineligible" (1%), and "missing contact information" (less than 1%).¹⁸ Representatives of AEA requested that the evaluators not target the "active" nonparticipants because they believed they still had a chance of recruiting them into the program. After multiple discussions with AEA and Con Edison, the evaluators agreed to only target the "unresponsive" and "uninterested" nonparticipants. This greatly reduced the nonparticipant sample frame (in the project work plan we had assumed that the nonparticipant population would be at least 1,000) because these two groups only accounted for nine percent of the total nonparticipant population. This narrowing sample frame meant that DNV KEMA needed to call all nonparticipants in this population to try to complete the target of 30 interviews and in the end fell a little short (25 completed interviews). As Table 2-4 shows we did complete one extra participant interview.

2.1.5 ORGANIZATION OF REPORT

This report is organized around the six broad research areas. Two sections follow this introduction:

- Chapter 3. Analysis and Findings, discusses the key findings of the research conducted; and

¹⁸ Based on interviews with AEA staff, "unresponsive" means "either five attempts to contact someone with no response or 90 days with no response." "Uninterested" means the prospect said they were not interested in the program at that point in time.

- Chapter 4. Conclusions and Recommendations, provides the recommendations for modifications to the program.

3 ANALYSIS AND FINDINGS

This chapter discusses the analysis and process evaluation findings, beginning with an examination of program participation and achievements to date. We then assess program processes according to the program areas identified in the evaluation objectives:

- Program planning and design;
- Infrastructure development;
- Marketing and customer acquisition;
- Program delivery;
- Satisfaction with the program; and
- Interactions with all other available programs.

3.1.1 SUMMARY OF PARTICIPATION AND PROGRAM ACHIEVEMENTS TO DATE

The MFEG program was significantly behind target for meeting the 2009-2011 goals in September 2011, when the evaluation team entered its survey fielding operation stage. At that time, the program had only achieved 25 percent of its MWh savings goal and 16 percent of its Dth savings goal. Program savings improved slightly by the end of 2011 to 39 percent of MWh savings goals and 26 percent of Dth savings goals.¹⁹ Some of the reasons for the program's failure to achieve its energy savings goals are discussed in the Program Design Challenges and Opportunities section of this report. Table 3-1 summarizes the MFEG year-end program achievements compared to its goals. The program annual goals for 2010 and 2011 were combined into a single goal to be achieved by December 31, 2011.

¹⁹ The achieved energy savings referenced here are *ex ante* savings estimates – savings estimates which have not yet been subject to further adjustment by program evaluators.

Table 3-1:
Con Edison – MFEG
Goals and Reported Achievements: 2010-2011

Energy Savings (Fuel Type)	Program Goal 2010 – 2011	Progress through Sept. 2011	Percent of Goal Achieved	Progress through Year- End 2011	Percent of Goal Achieved
Total Program Savings (MWh)	15,881	3,911	25%	6,242	39%
Total Program Savings (Dth)	250,451	39,586	16%	64,502	26%

Source: Con Edison Monthly Scorecards (September & December 2011) and updated goal information provided by Con Edison staff in a July 2012 conference call. The achieved energy savings referenced here are ex ante savings estimates – savings estimates which have not yet been subject to further adjustment by program evaluators

Program Spending Levels

With MFEG program energy savings being much lower than the program goals, it is not surprising that program spending was much lower than the original program budget, especially because fewer customer incentive checks were distributed. Table 3-2 shows what the Con Edison MFEG program has spent over the 2009-2011 period, broken out by program expenditure category. It shows that the program has only spent 31 percent of its overall budget over this period with a slightly higher proportion of the natural gas portion of the budget being spent than the electric portion.

Table 3-2:
Con Edison – MFEG
Program Spending: 2009-2011

Expenditure/Budget Category	Program Expenditures (Electric)	Program Expenditures (Gas)	Program Expenditures (Total)
Incentives & Services	\$1,861,875	\$1,749,808	\$3,611,683
Administration & Planning	\$646,367	\$563,761	\$1,210,128
Direct Program Implementation	\$1,836,720	\$1,542,042	\$3,378,762
Marketing & Training	\$577,567	\$529,982	\$1,107,549
Evaluation	\$69,592	\$69,686	\$139,278
Total Expenditures	\$4,992,120	\$4,455,279	\$9,447,400
Total Budget	\$16,589,934	\$13,469,308	\$30,059,242
% of Total Budget	30%	33%	31%

Source: Con Edison Monthly Scorecard (December 2011)

Program Activity Levels

The MFEG program got off to a slow start as energy savings were initially acquired in August 2010. The following timeline summarizes key dates in the MFEG program history:

- **July 2009:** The New York Public Service Commission (NYPSC) approves the MFEG program.
- **November 2009:** Con Edison hires the MFEG program manager.
- **December 2009-May 2010:** The program conducts marketing and outreach efforts to develop a “pipeline” of about 500 buildings whose managers and owners have expressed some interest in energy efficiency improvements. From this population of ~ 500 buildings the program conducts site visits with a sample of 35 (covering a range of building sizes) to assess energy efficiency opportunities in these buildings.
- **March 2010:** The NYPSC allows the program to expand its offerings to include incentives for hardwired CFLs.
- **May 2010:** The program selects the primary implementation contractor AEA (the Association for Energy Affordability). This contractor brings with it an additional “pipeline” list of qualifying properties.
- **June 2010:** The NYPSC issues an order that expands the program eligibility requirements to allow multifamily buildings of up to 75 units (the former limit was 50 units).
- **July 2010:** The program hires an assistant program manager.
- **August 2010:** The program claims its first energy savings (some common-area lighting projects).

Figure 3-1 and Figure 3-2 compare the amount of net kWh or net therms the program acquired each month with the program’s monthly net kWh/therm acquisition goals. It shows that the program only exceeded its monthly net kWh goals once and only exceeded its monthly net therm goals twice in the 2010-2011 period. Usually the program came out significantly short of its monthly goal, although there has been an improvement in program performance since August 2011.

Figure 3-1:
MFEG Program
Monthly Net kWh Savings Acquisition vs. Goal
2010-2011

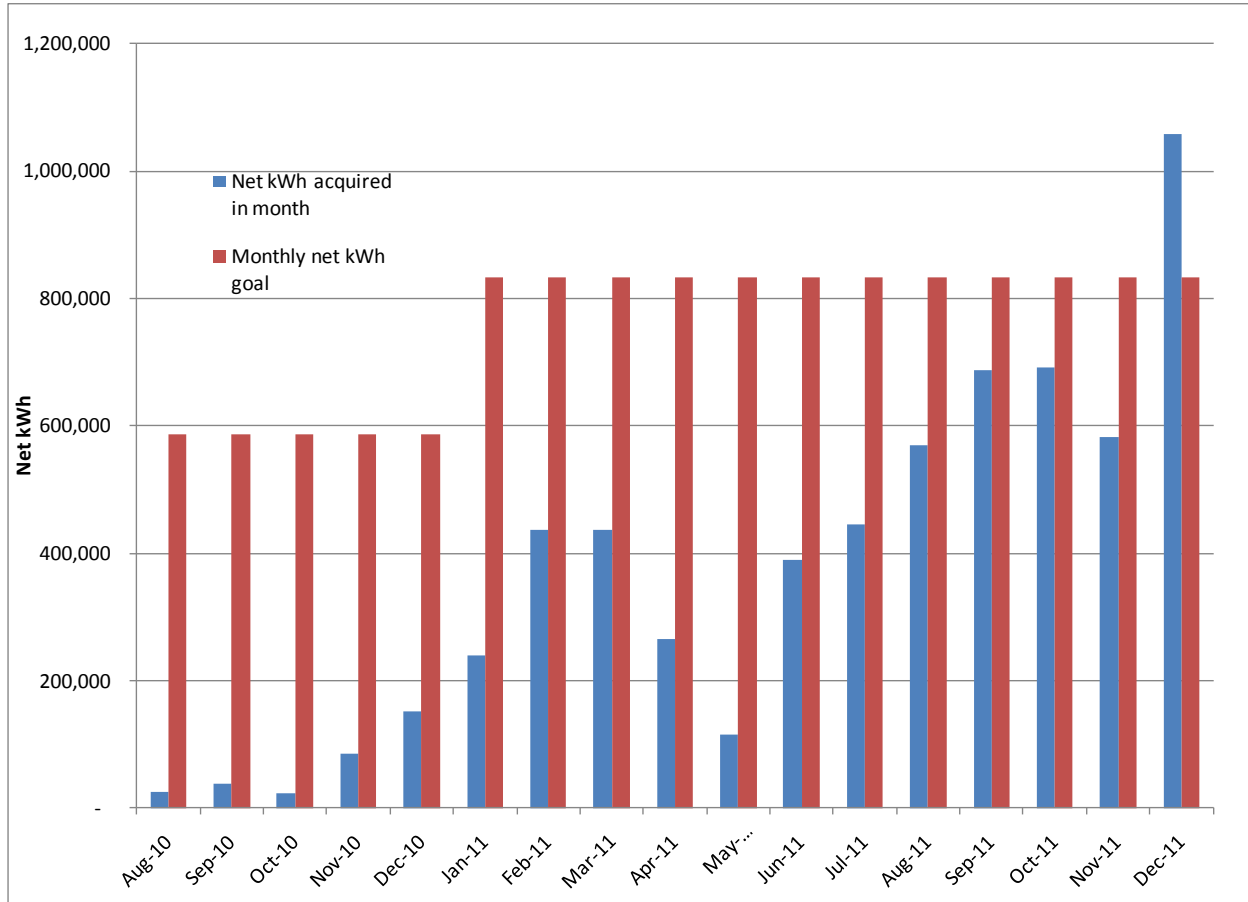
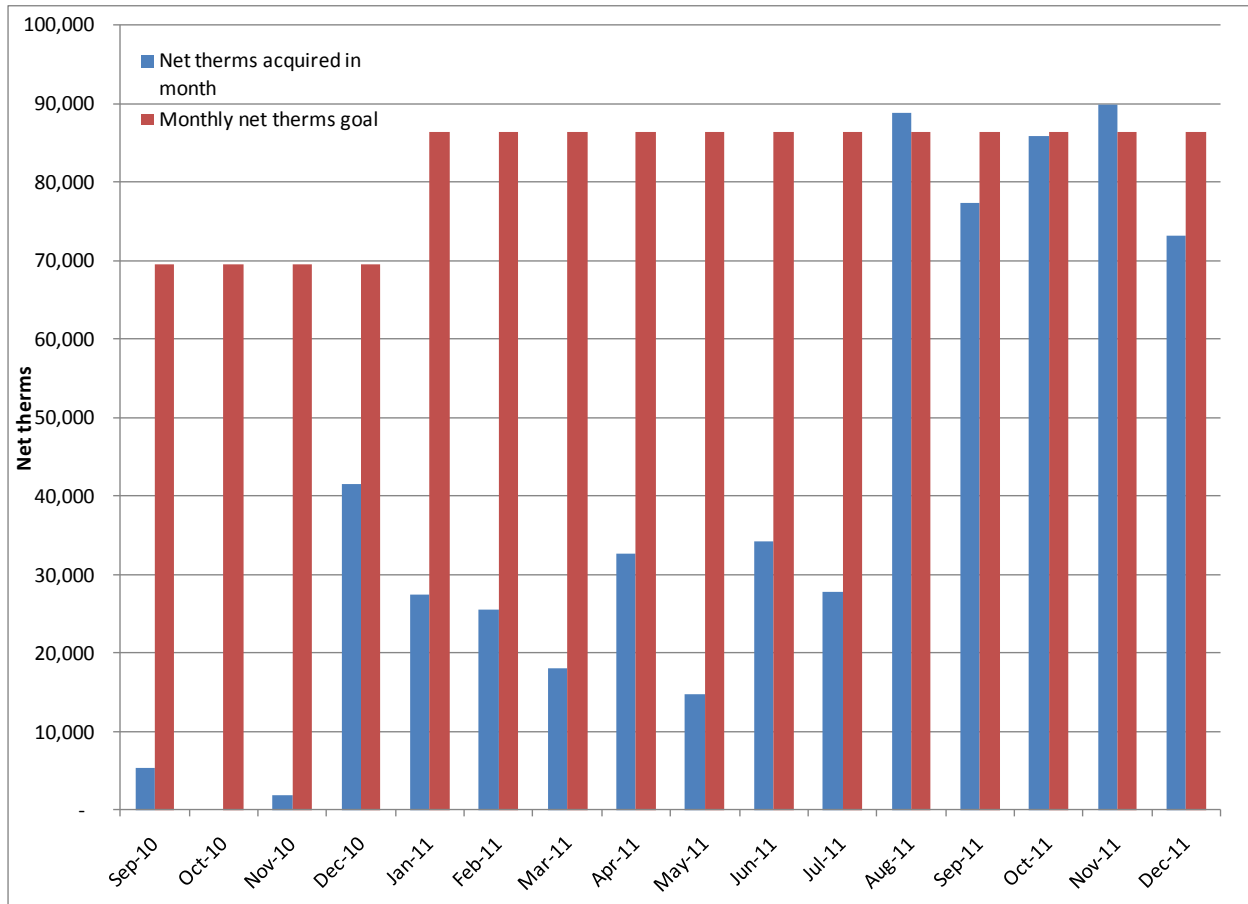


Figure 3-2
MFEG Program
Monthly Net Therm Savings Acquisition vs. Goal
2010-2011



Implementation Staff

Con Edison contracted with AEA to deliver the MFEG program on its behalf. Con Edison manages the MFEG program, and also retains some marketing responsibility. AEA shares program marketing responsibility and provides the program’s energy survey and direct install services and components. AEA works with subcontractors to further administer energy surveys and direct install measures, and to craft program marketing messages and materials.

Interviews with Con Edison and AEA staff indicated that the relationship between the utility and the implementation contractor has evolved over time. Initially, Con Edison took a very “hands on” approach. For example, at one point Con Edison was having three weekly meetings with various members of the AEA marketing and implementation team. Early on, the Con

Edison staff closely monitored how quickly and how frequently the AEA account managers would follow up on property management company leads.

An April 2012 interview with the Con Edison program staff, however, revealed that Con Edison now spends less time on day-to-day program implementation issues and more time on program planning, program assessment, savings verification, program re-design, and regulatory compliance issues.

Table 3-3 provides a description of the key program roles and the staff responsible for them as determined by DNV KEMA during its evaluation of the Con Edison MFEG program.

Table 3-3:
MFEG Program
Description of Program Staffing and Roles

Role	Responsible Party
Utility / Program administrator	<p>Con Edison Program Staff</p> <ul style="list-style-type: none"> • Program Manager and MFEG Assistant Program Manager, MFEG: Both nearly 100% dedicated to MFEG program development, administration, marketing and oversight. • Section Manager of Program Development Develops programs for residential and small business solutions. • Market Research Staff, Energy Efficiency Programs: Responsible for providing MFEG program staff with customer profiling data and potential customer acquisition opportunities.
Implementation contractor	<p>AEA</p> <ul style="list-style-type: none"> • Program Director: Responsible for overall program implementation oversight. Includes design, planning, and management. • Program Manager: Responsible for overall program design, planning, and management. • Chief Financial Officer: Responsible for fiscal program information, management, and processing of program rebate payments. • Program Outreach and Marketing Staff: Responsible for event planning and registration, and relationship building. • IT / Database Management Staff: Responsible for Salesforce functionality, data mining, and program tracking. Assists in verifying customer program eligibility. • GIS Specialist: Responsible for working with Salesforce data to verify program eligibility and map scheduled energy survey appointments or other targeted areas. • Logistics / Scheduling Team: Responsible for scheduling and grouping common area energy surveys. • Account Managers: Seven staffers responsible for direct contact and relationship building with Con Edison multifamily property managers/owners (or other decision makers). • Director of Technical Services: Responsible for management of program development and internal development of the technical services staff. Also oversees the building data analysis team. • Technical services staff: Responsible for performing the energy surveys

	<p>and completing the direct installs.</p> <ul style="list-style-type: none"> • Manager of Contractor Relations: Responsible for contractor outreach, recruitment, and training.
Subcontractors	<p>Haggman Advertising</p> <ul style="list-style-type: none"> • Executive Vice President, Director of Account Services: Responsible for overall strategic direction of the marketing campaigns, and the end marketing products • Account Supervisor: Responsible for day-to-day client and program activities, including marketing and program strategy, communications, and media relations. <p>CSG: Although Haggman handled the “creative” side of the MFEG program marketing and worked most closely with AEA, Haggman was actually a subcontractor to CSG which was a subcontractor to AEA. CSG had a call center and provided other logistical support to the marketing efforts.</p>

Multifamily Interviews: Participant and Nonparticipant Definitions

DNV KEMA completed in-depth interviews with a subset of program participants and nonparticipants who have interacted with the program since its inception. DNV KEMA interviewed 31 participating and 25 nonparticipating multifamily property managers/owners between December 2011 and February 2012. As discussed in the Methodology Section above, we targeted participating property owners based on whether they installed common area measures, in-unit measures or both at their properties.

To increase the possibility that we interviewed program nonparticipants who had some program familiarity and could provide feedback valuable within the evaluation, we limited the nonparticipant population to those property managers or owners identified as potential participants within the Salesforce database. DNV KEMA selected a random sample of property owners or managers in Salesforce with a status of “Uninterested” or “Unresponsive.” Our reasons for only interviewing this subset of nonparticipants are explained in the Methodology Section.

Characterizing the Respondents

This subsection summarizes information that the participating and nonparticipating property managers reported about their companies, their properties and, in the case of participants, the types of energy-efficient measures they installed through the program.

Participants

The evaluators asked participating property managers whether they owned the participating properties, managed them, or both owned and managed them. Nearly two-thirds (65%) stated that they both owned and managed the property (this included co-ops) and about a quarter (27%) managed only. The rest (8%) were owners only who did not actively manage the property, but they were knowledgeable enough about their building and the program to answer most of the interview questions. Participating respondents reported having between 5 and 222 apartment units, averaging 34 units. Curiously, three of the participating properties were reported to be greater than the program's maximum 75-unit building size limit (they were 80, 83 and 222 units respectively). We asked Con Edison about this and they said that the 222 units was actually part of a building complex where the individual buildings contained less than 75 units in each of the buildings. In the other two cases, they reported that "we have allowed a small number of buildings that were part of a larger portfolio modestly over 75 units into the program." Con Edison said that it was claiming energy saving for the buildings that were modestly over the 75-unit limit.

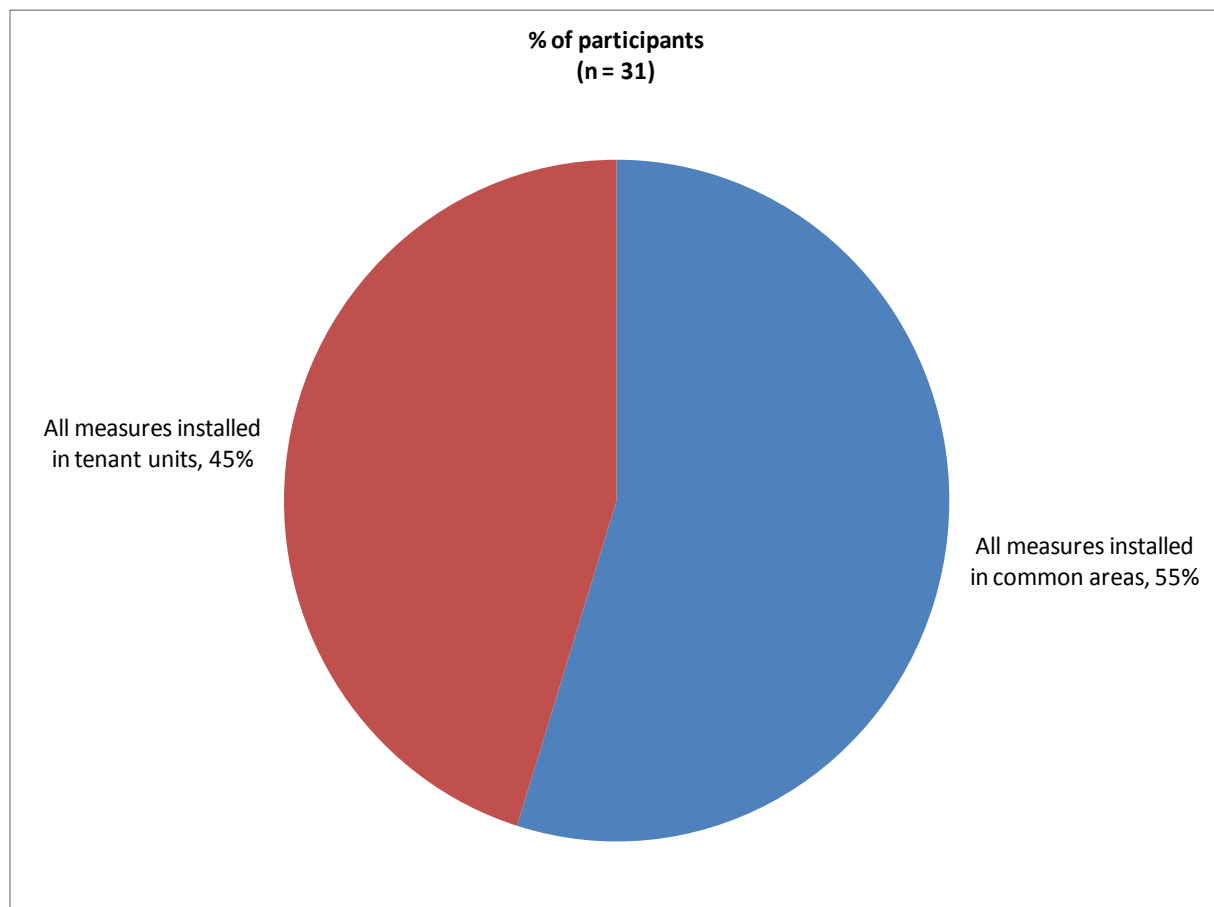
The evaluators asked the participating property managers whether their tenants at the participating property were responsible for paying their own utility bills or whether these utilities were included in the rent. We also asked them which utilities in these buildings were individually metered vs. master metered. These questions are important because program evaluation theory posits that it can be difficult to develop energy efficiency projects in rented space because of the classic split incentive barrier where the landlord controls the energy equipment purchase decisions but does not pay the tenant energy bills.

The participating property managers reported that most tenants are responsible for at least a portion of their utility bills. In the cases where owners or managers paid utilities, it was generally for hot water and heat only. Consequently, nearly all apartment units had individually metered electricity while only about one third had individually metered gas. Nearly all properties reported master metering for water.

We asked participating respondents about the types of energy-efficient equipment they installed through the MFEG program and where this equipment was installed. Figure 3-3 shows that a little over half (55%) of the interviewed participants had all their measures installed in the common areas, with the remainder having all their measures installed in the tenant units. We

also tried to complete interviews with four participants who had installed program-rebated measures in both their common areas and tenant units, but we were unable to complete any interviews with participants from this stratum. As discussed later in the report, while the multifamily property manager/owner decided whether the program could visit their buildings to do the direct installs, whether an individual dwelling unit received the direct install measures is up to the tenant, with one small exception.²⁰ The program did not collect tenant contact information in the Salesforce tracking system, so we were not able to survey tenants about their reactions to the energy surveys or direct install measures.

***Figure 3-3:
Where MFEG Participants
Had their EE Measures Installed***



²⁰ Con Edison noted that the one exception is in the case of supportive housing where the building supervisor has access to 100% of the residents units for safety reasons. In these cases they get access to all of the units with the management's permission and supervisor's access.

Table 3-4 shows which energy-efficient measures the participants installed through the MFEG program. The installation of high-intensity discharge (HID) lighting was the most popular common area measure followed by the installation of energy-efficient steam boiler replacements and lighting motion sensors. Among participants who had energy-efficient measures installed in the tenant units, all had CFLs installed and the large majority had smart strip and/or low-flow showerheads installed.

Table 3-4:
Which EE Measures Participants Installed
Through the MFEG Program

EE Measure Type	Only Common Area Installations n=17	Only Tenant Unit Installations n=14
Fluorescent HID	41%	-
Steam Boiler	29%	-
Motion Sensor	29%	-
LED Exit	24%	-
EMS	18%	-
CFL	18%	100%
DHW Pipe Insulation	12%	-
Bi-Level Fixtures	6%	-
Smart Strips	-	86%
Low Flow Showerhead	-	71%

Note: Percentages in the table represent the percentage of participants in that category who installed the energy-efficient measure. Total percentages exceed 100% because participants were allowed to install multiple measures.

Nonparticipants

The evaluators asked the 25 nonparticipating property managers a series of questions that were very similar to those we asked of participants. They were asked about the characteristics of their companies and the multifamily properties they manage. Two thirds (66%) of the nonparticipant respondents (n=21) said that they both owned and managed the properties in question, 19 percent said that they managed the property only and the rest (14%) said that they owned the property but did not actively manage it. The nonparticipating respondents also reported having between 3 and 90 apartment units, averaging 21 units; only one property exceeded the 75 unit limit (90 units). Nearly all respondents reported that tenants pay their own utility bills, with

only two responding that electricity was master metered, and the same two reporting that gas was master metered.

Program Planning and Design

The MFEG program is primarily intended to acquire energy efficiency savings within multifamily buildings and units. It also serves as an energy efficiency educational vehicle for program-eligible building owners/managers, local housing authorities, apartment associations, condominium and cooperative boards.

Con Edison did not develop a MFEG program logic or theory model. Through the evaluation team's interviews with the MFEG program manager, the team concluded the program is primarily a resource acquisition program. This is largely based on the program manager's description of how the program is delivered, and his statement that a main program objective is to achieve the program's electric and gas energy savings goals. The program also aimed to educate building owners/managers, local housing authorities, apartment associations, condominium and cooperative boards about the benefits of energy efficiency. Education of these key program audiences is being done through the dissemination of educational materials to building owners and operators. The program was not directly targeting educational messages or actions towards tenants beyond giving tenants Green Team marketing materials containing energy efficiency tips in multifamily buildings where the program was completing direct installs.

Program Design Challenges and Opportunities

The MFEG program faces many significant challenges in trying to implement energy efficiency projects in the multifamily sector. Some of these challenges are market barriers that are particular to the multifamily sector. Others are challenges that were created when the MFEG program was first designed.

Market Barriers

Regardless of program design, all programs that seek to target the multifamily sector face certain market barriers that hinder the implementation of energy-efficient projects. These market barriers include:

- *The split incentive barrier:* In the program evaluation literature the multifamily sector is often cited as a market sector where split incentive barriers are particularly prevalent.²¹ This is because, in most cases, the property manager controls the energy equipment purchase decisions but does not pay the energy bills for the tenant units. Therefore it would appear that the property manager has no economic incentive to purchase energy-efficient equipment, which usually is more expensive than standard efficiency equipment. Some recent research has raised questions about the importance of the split incentive barrier in the multifamily sector.²² However, the Con Edison program staff did believe that the split incentive barrier was a challenge for the MFEG program. “These landlords [with tenant unit meters] generally have no interest in doing anything in the unit per se,” said the Con Edison program manager. “They have general interest in benefitting in the ...common space, if they can see a way to save money. But generally, once a building is not master metered, ... they generally have no interest [in tenant unit efficiency].”
- *Complex decision-making structures:* Implementers of energy efficiency programs in the multifamily sector often have to deal with complex decision-making structures. For example, there may not be a single decision-maker but a group such as a cooperative board or a condominium board. For many property management companies the key decision-makers may be located outside of New York City. “We have landlords anywhere from Colorado, upstate, property managers all over the state,” said the Con Edison program manager. In addition to making it difficult to find the key decision-maker, these complex decision-making structures can greatly delay project implementation and thereby increase uncertainty over project completion. “A condo board meets once a month,” observed the Con Edison program manager. “So therefore, even if the audits occur in June, they may

²¹ For example: “Misplaced, or split, incentives are transactions or exchanges where the economic benefits of energy conservation do not accrue to the person who is trying to conserve. The terms have been used to describe certain classes of relationships, primarily in the real estate industry between landlords and tenants with respect to acquisition of energy-efficient equipment for rental property. When the tenant is responsible for the energy/utility bills, it is in the landlord’s interest to provide least-first-cost equipment rather than more efficient equipment for a given level of desired service. There is little or no incentive for the landlord to increase his or her own expense to acquire efficient equipment (e.g., refrigerators, heaters, and light bulbs) because the landlord does not bear the burden of the operating costs and will not reap the benefits of reducing those costs.” (William H. Golove and Joseph H. Eto; *Market Barriers to Energy Efficiency: A Critical Reappraisal of the Rationale for Public Policies to Promote Energy Efficiency*; Lawrence Berkeley National Laboratory, University of California, Berkeley, LBL-38059, UC-1322, March 1996, p. 9.)

²² Dyson, Christopher, Caroline Chen, Shahana Samiullah, “The Split Incentive Barrier: Theory or Practice in the Multifamily Sector?,” Paper presented at American Council for an Energy-Efficient Economy Summer Study on Energy Efficiency in Buildings in August 2010.

make that decision [to go ahead with the projects] in July and then they need to identify the funding probably in August. So even just the reality of the situation, that is a huge unknown in terms of getting stuff done.”

- *Dispersed property holdings:* The program implementers observed that when they recruited new property management companies, the properties owned by these companies were often widely dispersed across New York City. “Almost nobody had properties just in one borough,” said one of the program implementers. This frequent dispersion of property holdings means that assignment of program leads to an account manager based on geography is sometimes not feasible.
- *Language/ethnic barriers:* Our interviews with the program implementers as well as our observations during the ride-alongs with AEA field staff indicated that language and cultural barriers – which tend to be more prevalent in multifamily vs. single-family programs -- presented challenges to the implementation of the MFEG program.

Program Design Barriers

In addition to the market barriers mentioned above, the MFEG program also has faced some program design barriers that have hindered its implementation. Some of these program design barriers included:

- *Some of the initial assumptions of energy savings opportunities for the program were likely overstated:* Subsequent to the development of this MFEG implementation plan, Con Edison and its program implementation contractor AEA discovered that some of the energy-efficient measures that were expected to produce a large quantity of savings for the program were difficult to implement. Two important examples of such measures included building envelope measures (e.g. insulation and weather stripping) and refrigerators.
 - *Barriers to the implementation of building shell measures:* Many of the multifamily buildings in New York City presented challenges to the installation of certain types of insulation. “When you’ve got buildings that are masonry, you’re not doing sidewall insulation, when you’ve got flat roofs, you’re not doing knee wall insulation,” said one of the program implementers. “We had a program that was 92 percent of the gas savings based on the weather-stripping components of the gas program,” said a Con Edison representative. “... I don’t have to say that is physically

impossible to achieve.” In its May 2012 petition, Con Edison also claimed that most of these shell measures were not cost effective.²³

- *Barriers to refrigerator replacement:* Initially the replacement of inefficient refrigerators with ENERGY STAR units was planned to be a major component of the program (the program was initially called the “Refrigerator Replacement Plus Program.”) Yet program implementers subsequently discovered that due to New York requirements for minimum refrigerator efficiency standards that increased the “baseline” efficiency for this measure, the number of program-eligible refrigerators was much smaller than originally thought. “The only other [refrigerators] that would have passed [the Total Resource Cost (TRC)] were those above the 17 year old age restriction and so now we can do those, but they’re not very frequently found,” said one of the program implementers. “And so we had basically scrapped the idea of being able to do a bulk purchasing program for buildings, which we thought we were going to be able to do pretty effectively, because we don’t find enough ... refrigerators at a building that are actually eligible.” The interviewees said that this problem was not unique to the MFEG program but that other energy-efficiency programs in New York also had difficulty generating energy savings from refrigerator replacements.
- *The projections of measure-specific energy savings for the program preceded the availability of key information needed to develop TRC screening tools:* The MFEG program’s implementation plan projected which types of energy-efficient measures would produce energy savings for the program. However, the Con Edison program staff claimed that these projections of measure-specific savings for the program were made before they had key information that was needed for the development of their TRC screening tools. The possession of this information is now allowing the Con Edison staff to recommend ways to redesign the MFEG program to make it more cost effective. This key information which was not available when the program was first designed included:
 - The development of the New York Technical Reference Manual (TRM)²⁴ which provides instructions on energy savings calculations;

²³ In the petition Con Edison wrote: “Cost effective implementation of most measures in this [weatherization] design bucket proved prohibitive. Roof/door/pipe insulation can be implemented cost effectively, but acquired savings only contributed to 5% of current gas program.”

- The issuing of NY DPS decisions that defined/clarified key inputs for these TRC calculations such as LRAC and administrative costs calculations; and
- Data from actual projects which allowed the MFEG program staff to determine which measure types were found to be cost effective by passing the TRC test.
- *The initial program assumptions of what proportion of the measure costs would be covered by the program incentives were too high.* The MFEG program implementation plan indicated that the program incentives would either cover 70 percent of the measure costs or 70 percent of the incremental costs of a wide range of energy-efficient measures. However, when the Con Edison program manager calculated the dollar amounts and compared these to actual incremental costs for New York City, “the dollar numbers were nowhere close to 70 percent,” he said. “They actually are more in the vicinity of 10 to 20 percent.” The program manager speculated that these incremental costs assumptions were not based on a New York City-specific study. “The important thing to note here is that New York City is an anomaly,” he said, “a very localized [study] has to be done.”
- *Changes in program rules have created some difficulties in implementation:* One example of this was in June 2010 when the New York DPS changed the maximum eligible size of a multifamily property for the MFEG program from 50 units to 75 units. Con Edison said that they had to change all their marketing materials, website information, etc. to accommodate this rule change. The implementation contractor AEA also claimed that they had initially obtained program approval for an “owner’s agreement” in the energy survey paperwork that would tie some energy efficiency implementation commitments from the property owner to the receipt of the energy survey. AEA said that they had trained their sales representatives to try to obtain these owner agreements. However, Con Edison later determined that these energy surveys should be free with no project implementation strings attached. “Giving people uncertainty about whether something is staying or changing is a source of potential confusion,” said an AES representative. “So that’s been a tough line to walk in this program because there have been several times where something has changed.”

²⁴ The official name of this manual is the “New York Standard Approach for Estimating Energy Savings from Energy Efficiency Measures in Multifamily Programs,” prepared for the New York Department of Public Service by New York Evaluation Advisory Contractor Team (Nick Hall, Pete Jacobs, Paul Horowitz, Rick Ridge, Gil Peach, Ralph Prael) and TecMarket Works. We are referring to this manual as the TRM for ease of reference and because this is the generic term for such manuals in many states.

- *Program incentives have been too low to compete with ARRA weatherization incentives:* Low incentive levels are an aspect of program design that is difficult to correct since incentive levels are usually defined and constrained by program benefit/cost screening assumptions. However, the fact remains that the availability of federal stimulus funding complicated delivery of the MFEG program. According to the MFEG program manager, these weatherization incentive dollars were substantially higher than incentives offered through the MFEG program. Rather than trying to compete with these weatherization dollars, the MFEG program tried to “piggy back” on the outreach efforts of the weatherization programs. The intent was to offer property managers and owners an incentive “package” that included both weatherization dollars and Con Edison MFEG incentives for other energy-efficiency measures. This change in program delivery strategy (the January 2010 MFEG implementation plan described the program as a stand-alone effort) will likely complicate free ridership analysis for the impact evaluation. This is because it may be difficult for participants to disentangle the effects the MFEG program incentives from the effects of the weatherization dollars.

In the remainder of this report, we examine key elements of MFEG program design, and identify opportunities to increase MFEG program activity. We first assess the infrastructure and tracking database, used as the foundation for managing program activity. To evaluate opportunities to increase participation, we examine the marketing and customer acquisition processes that bring eligible Con Edison customers into the pipeline, as well as the program delivery processes. Finally we assess program satisfaction and examine interactions with other programs to identify their impact on MFEG participation.

3.1.2 INFRASTRUCTURE DEVELOPMENT

In this section, we examine program management and reporting processes associated with the tracking system for the Con Edison MFEG programs. Specifically, the evaluation team assessed the tracking system used by AEA for the MFEG program. Our assessment was originally shared with Con Edison in a memorandum dated February 10, 2012.

The research plan for the process evaluation of the MFEG program had the following description of the tracking database assessment task:

A KEMA staff person experienced with energy efficiency program tracking databases will review the databases used by the MFEG program. Although this database review may touch upon a number of different issues, it will, at minimum, focus on three key questions:

- 1) Do the databases have the necessary information for program implementation and to allow evaluators to verify energy savings and conduct other evaluation tasks (e.g., sampling design for surveys)?*
- 2) Are the key database fields completely populated?*
- 3) Are the data in the key data fields of sufficient quality in terms of accuracy and consistency?*

The research plan also mentioned a fourth possible research question: “Has the information in the rebate applications been properly entered into the database?,” which was contingent on a sample of rebate applications being readily available. When we were developing our data requests in the spring and summer of 2011, AEA indicated that these rebate applications were not in an easily accessible format (e.g., the applications had not been electronically scanned and linked in the tracking database with other participant information). It was also our assumption that the pending impact evaluation of the MFEG program will include some sort of document review. For these reasons we decided to only pursue the three key research questions noted above.

Detailed Findings

AEA tracks MFEG program activity in two separate tracking systems:

- A Salesforce Customer Relationship Management (CRM) software package that tracks participant and potential participant names, contact information and progress in the program; and
- Excel spreadsheets that track committed and installed measures.

The two tracking systems are independent and do not share common identifiers allowing them to link together. This ability to link basic customer information to program activity by the customer is an essential requirement of any evaluation – whether a process evaluation or an impact evaluation – because it is needed to develop valid sample frames for surveys or site visits.

The Salesforce CRM Database

The evaluation team reviewed an extract from the Salesforce CRM provided by AEA on September 21, 2011. The Salesforce CRM is a relational database structured around individual property managers/owners. The database extract which AEA provided in September had the following tables:

- The “Accounts” table lists all of the property managers/owners identified as potential participants by the program with the “Account Name” as the unique identifier for each record;
- The “Contacts” table lists contact information for each record in the Account table with one or more contact record per “Account Name”; and
- The “MFEE Project Pipeline” table lists potential participating properties (opportunities) and includes information on the source of the lead, whether or not the program is coordinating with the Weatherization Assistance Program (WAP), the number of dwelling units, and a series of binary fields that indicate which program participation milestones (e.g., “Application Received,” “Common Area Survey Completed,” etc.) the participant has completed along with the date when this milestone was achieved. A single account may have multiple properties listed in the project pipeline.

We found that the information in the Salesforce extract had several problems that limited its usefulness for program management and evaluation. Structurally, having three tables, one at

the account level, one for contacts and one for projects (opportunities) makes sense, but the lack of numeric ID fields to link the tables makes the data hard to work with outside of the native Salesforce software package (a challenge for evaluators) and does not provide a way to link the data in the Salesforce database to other data tracking systems (a challenge for both program management and evaluators). The full list of issues we found in the Salesforce database includes:

- *No numeric ID fields:* Links between tables are based on a character string in the “account” field which included inconsistencies in use of abbreviations, punctuation, and capitalization.
- *No standardized ID to link to the Excel files that track program participation at the measure level:* Links between the Salesforce data tables and the Excel files can only be made via property name/address, but these are problematic because of inconsistencies in spelling punctuation, etc.
- *The Accounts table in the Salesforce database does not work as a database table:* Five percent of records in this data table have rows in separate cells for the address field, preventing simple manipulation of the data.
- *The Contacts table has half as many records as the Accounts table:* Each account identified in the database should have at least one contact listed.
- *Frequent typographical errors:* Small errors, such as proper names being all in lower case, missing spaces and misspellings appear throughout the data extract. This prevents users from easily identifying duplicate records and shows a lack of attention to detail in data entry.
- *No “date added” or “date last contacted” fields are included in the Accounts table:* This makes it impossible to determine from the data which accounts require follow up and which accounts should no longer be considered potential participants.
- *Outreach status is not descriptive enough:* There is no indication if all properties of an owner have been completed or refused or some combination of the two.
- *Duplication of opportunity listings:* We found several instances where a single opportunity was listed multiple times in the Pipeline

- *Missing dwelling unit data:* The number of dwelling units is missing in seven percent of cases.
- *The “active” designation of a prospect is not very informative:* As noted earlier in this report, about 90 percent of the prospects are designated as “active” in this Salesforce database. This fact alone indicates that the term is used too broadly to be helpful for assessing program success or for prioritization of program targeting. We asked the AEA staff whether their account managers used other information about these prospects to determine which of these “active” prospects they should pay more attention to. They said that they did and this included information such as the size of the company’s portfolio of buildings or whether some of the company’s buildings were already going ahead with energy efficiency improvements. Yet it did not appear that this useful information was being captured by the Salesforce database in a way that would allow Con Edison or AEA program managers/staff to easily determine which of the “active” prospects were more desirable from an energy efficiency potential perspective (e.g., they had a lot of buildings) or a likelihood-of-success perspective (e.g., some of their buildings had already participated in the program).

The Excel Spreadsheets

The system of Excel spreadsheets used to track the program’s installed and committed measures is poorly suited to track a program of this size. The tracking system includes up to four Excel workbooks for every participating property. These include separate spreadsheets for:

- 1) The committed common area measures;
- 2) The committed in-unit measures;
- 3) The installed common area measures; and
- 4) The installed in-unit measures.

There are no ID variables that link the four workbooks, nor are there direct links.

Each of these workbooks have a series of worksheets to enter measures of different types and calculate measure level savings. Since the program’s inception, the tables in the spreadsheets have changed, making it difficult to import the data into other data management systems. The spreadsheets also do not contain contact information. Finally many of these project-level workbooks for projects that have been completed (and therefore the workbooks should be

finalized) have an error warning when they are opened that indicates that the Visual Basic programming that they rely on is not final.

The MFEG program aggregates the property level spreadsheets into monthly scorecards for reporting to Con Edison through direct links from the scorecard workbook to the property level spreadsheets. This system is inefficient, fragile and presents multiple opportunities for error. Due to the number of files, the number of tables within these files and the different versions of the file templates, this evaluation was unable to compare the total savings in the property level spreadsheets to those in the monthly scorecards. Furthermore while the monthly scorecards include the savings for each measure installed in each property, they do not include the quantity of each measure installed, which is required in an impact evaluation. The scorecards also do not include contact information such as names and phone numbers for building managers.

3.1.3 MARKETING APPROACHES

Overview

In this section, we examine how Con Edison and AEA are marketing the MFEG program to increase general awareness and promote participation. The review is based on in-depth interviews with program staff, implementation contractors, and in-depth interviews with participating and nonparticipating multifamily property managers/owners. The evaluation team also assessed the marketing materials developed by Con Edison, AEA, and subcontractors working with the program. The marketing examples specifically reviewed within this section were provided by Con Edison in response to our data request.

Marketing and Outreach Findings from the Program Implementer Interviews

This subsection discusses our findings concerning MFEG program marketing and outreach activities based on our in-depth interviews with program implementers including Con Edison program staff, AEA staff, and some of AEA's subcontractors.

The Green Team Marketing

There are two levels of marketing related to the MFEG program. The first level of marketing is a "Green Team" awareness campaign by Con Edison. The "Green Team" messaging focuses on

energy efficiency in a broad sense and is not program specific. The campaign is not intended to highlight specific Con Edison program incentives or drive specific groups to certain programs. Instead, it serves to build energy efficiency awareness and education among Con Edison customers in general. The campaign uses a variety of channels to reach a broad customer base, such as placing advertising in the subway and in other public spaces or doing TV, radio, and online advertising. A screen shot of the program's "Green Team" website appears later in this section as an example of this campaign's marketing materials and messaging.

Our interviews with the program implementers and our observations during the ride-alongs with AEA field staff indicated that this generic "Green Team" advertising can benefit the multifamily program even when this messaging is not specific to the MFEG program or the multifamily sector in general. For example, the Con Edison program staff reported that there was some "positive spillover" from the Green Team marketing effort that "facilitated ... to some extent our entry into some of these resident in-unit installs." In the ride-alongs the evaluators observed that references to the Green Team were included in the advanced notices that AEA staff slipped under tenant doors and that the energy surveyors/direct installers were wearing Green Team references on the backs of their tee shirts.

Yet there was also evidence from the in-depth interviews that coordinating specific MFEG program marketing plans and campaigns within the larger Con Edison "Green Team" branding campaign has been a program challenge. Specific examples include:

- AEA/ Haggman had an overall vision and plan for program marketing materials as the program launched. Development of key marketing materials was underway when Con Edison simultaneously developed and implemented its "Green Team" branding campaign. After the campaign launch, Con Edison requested that the AEA and Haggman marketing team members align their marketing materials to fit within the "Green Team" campaign. This creative restart caused some program specific marketing to be delayed.
- The first MFEG ad with "Green Team" branding led with a bullet promoting oil-to-gas conversion. Customers interested in the MFEG program who responded to the oil-to-gas conversion concept found that they needed to work solely on an oil-to-gas conversion before they were able to work with, or qualify for, the MFEG program.

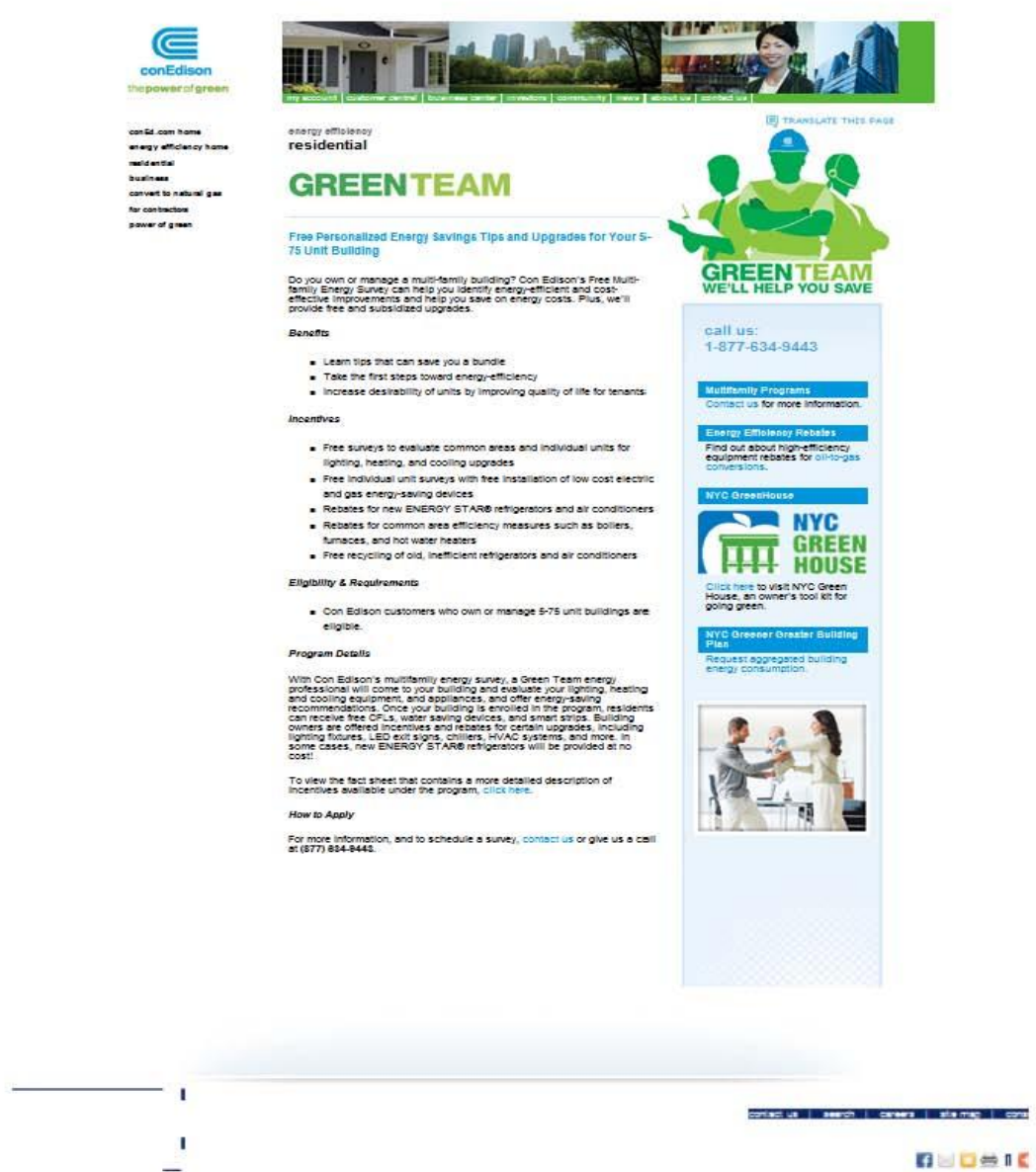
Despite these difficulties, AEA and Haggman advertising have embraced the “Green Team” campaign. Program-specific materials using the “Green Team” branding have improved (e.g., oil-to-gas conversion language has been removed) and been widely used. However, Haggman staff said that future “Green Team” MFEG program materials may benefit from use of specific multifamily images or messaging to further stand out as a unique multifamily program within the larger Con Edison program marketing efforts.

Website

Figure 3-6 shows the “Green Team” web page that details the Con Edison MFEG program. The website is targeted towards building owners or managers and outlines program benefits, incentives, eligibility requirements, and in the “Program Details” section, lays out how the program works. The hyperlink on this main page leads to a two-page program fact sheet. We found the fact sheet to be generally effective in providing additional program information, including a table of common area and in-unit measures and incentives available through the program. Our one concern with the fact sheet is that it directs customers to a website with an AEA URL without any explanation of who AEA is and how they are involved in the program. This might confuse some potential participants.

While the “Green Team” website does currently offer specific MFEG program details, interviews with AEA and Haggman staff revealed concern that specific multifamily program messaging may get lost within the “Green Team Power of Green” energy efficiency landing pages.

Figure 3-4:
Con Edison MFEG Program Website²⁵



²⁵ http://www.coned.com/energyefficiency/residential_multifamily.asp

Other Program-Specific Marketing and Outreach Activities

The second level of marketing related to the Con Edison MFEG program is more tailored to communicate specific information about the MFEG program. AEA coordinates a bulk of the marketing, outreach and relationships fostered through the program. AEA worked with subcontractors CSG and Haggman to create the specific marketing plan for the program. It targets specific business-to-business contacts such as multifamily property managers/owners or property organizations with its primary marketing activities. Marketing channels for this program include print and online advertising, email blasts, outreach at conferences and trade shows, among other activities.

AEA works closely with Haggman to develop program messaging and to produce the creative content for various marketing materials. Haggman also handles media buys and tracks media hits, impressions, etc. Haggman creates media activity reports for the program and shares those reports electronically and in hard copy with AEA and the program manager at Con Edison. While Haggman and AEA work in tandem to develop marketing materials, all concepts and communications must be approved by Con Edison. Program advertising and press releases are often tied to the seasons. For example, spring and summer program materials may urge building owners to make energy efficiency improvements to a multifamily building in advance of the heating season for maximum energy savings.

Staff at both AEA and Haggman reported having a good professional working relationship with Con Edison team members. They rated the marketing communication as frequent and informal, and the approval process as “excellent.” Con Edison, AEA, and Haggman staff members involved in marketing efforts had weekly marketing meetings to plan marketing efforts and debrief about past events.

Our in-depth interviews with AEA and the subcontractors who do marketing for the program helped identify how the marketing players work together as a team. If a new, specific marketing piece is initiated, the process typically starts with Haggman drafting a creative brief. AEA gets a chance to review the brief and add technical program information, and the parties will continue to work iteratively until they have a solid draft product. The draft then goes to Con Edison for approval, and the product will become final after approval from Con Edison is received, or comments received from Con Edison are implemented.

Con Edison's energy efficiency programs can and do utilize the "Green Team" messaging in their respective program materials. Marketing and program professionals working within the MFEG program report modifying Green Team marketing materials to include actual incentives for this program when using the "Green Team" branding in program-specific advertising.

Interviews with various program professionals particularly emphasized the importance of relationship-building to market the program. Both AEA and Con Edison staff described an ongoing presence at conferences, trade shows and other public events to meet and build relationships with multifamily building owners. AEA marketing staff further confirmed that marketing tools such as e-mail blasts are often used to drive multifamily building owners to these in-person events. Both AEA and Con Edison also rely on the relationship between various account managers and building owners to create program awareness and acquire repeat participation in various energy efficiency programs for which an owner might qualify.

A recent (April 2012) interview with Con Edison staff indicated that over time they have refined their approach to conferences and other in-person events. Early in the program implementation they attended a wide variety of energy efficiency conferences and events including some that did not have a particular focus on the multifamily sector. Often they would make presentations or set up a booth and hand out fliers at these events. However, they were generally disappointed with the results of these efforts in recruiting new multifamily property managers/owners into the MFEG program. According to the MFEG program manager, their new approach to these in-person events involves "more mingling within the crowd ... with the express view of making contacts and bringing back [business] cards and following up." The program team is also more selective about which events they attend. "We will still go to very targeted multifamily-focused events," said the program manager, "but we're trying to generally stay away from all-encompassing, energy-efficiency type events."

AEA staff interviews also indicated that there were additional program outreach and public relations efforts which may not have been part of the original marketing plan but which rose out of opportunity. For example, program officials held a program kickoff at Con Edison involving both multifamily owners who were considering joining the program and contractors who would be available to install the energy efficient equipment. AEA has additionally taken advantage of radio or TV opportunities to highlight program success stories when those opportunities arise.

The in-depth interviews revealed that, both within Con Edison and within AEA, staff were hired with the expectation that they could use their experience in the industry and existing personal relationships to help acquire a customer base for the program. Both the Con Edison program manager and lead staff at AEA confirmed during interviews that their pre-existing relationships with New York area property managers helped initiate program activity. They reported that these personal connections, or “strategic partnerships” as one staff member dubbed them, are crucial supplements to other program marketing efforts.

Many of the MFEG participant candidates in the Salesforce database were companies that AEA staff had developed relationships with during multifamily weatherization work that they had done prior to becoming involved with the MFEG program. Before AEA was even hired as the implementation contractor -- in late 2009 and early 2010 -- Con Edison staff had also developed a program pipeline of about 500 “interested” multifamily properties/companies through its own outreach and energy survey actions. Therefore much of the early program outreach efforts involved working this pipeline of multifamily property manager/owners prospects.

In addition to working these earlier lists of prospects from AEA and Con Edison, the program sales representatives obtained new leads from other sources. In some cases multifamily property manager/owners became aware of the MFEG program through marketing and outreach efforts and contacted the program directly either by calling the program call center or emailing information via an inquiry form that appears on the program website. In other cases the multifamily property managers/owners were unaware of the MFEG program but contacted the general Con Edison energy efficiency call center with questions about energy efficiency opportunities. In such cases the Con Edison call center staff had been trained to direct these customers to the MFEG program call center. The customer service representatives who work on this program call center typically do a screening for customer eligibility before passing the customer contact information on as legitimate leads. In the case of in-person events, program staff may also collect names of leads from business cards or conference sign-in sheets.

Regardless of the source of these program participant leads, AEA generates a report of these leads on a daily basis. The Con Edison and AEA staffs regularly scan these reports and determine which of these “new” leads are actually new leads and whether these new leads are worth pursuing. Once AEA determines this, it assigns new leads to account managers.

AEA assigns these leads to account managers based on a number of different criteria. These criteria include any personal relationship or contact the account manager may have had with the company, the account managers' work load and the prospect's likely program eligibility. Sometimes geography is also consideration. "Some account managers work with more buildings in Brooklyn or they have more connection in Queens or Westchester," said one AEA interviewee. Yet, as noted earlier in the report, the fact that many multifamily property management companies own/manage buildings in many different parts of New York City means that an allocation of leads to account managers based on geography is sometimes not feasible.

In some cases multiple representatives of the same company would contact the MFEG program and be assigned to account managers without the program or the company representatives initially realizing the duplication. For example, a property manager might contact the MFEG program without realizing that somebody at a higher corporate level is already working with the program. Once AEA figures out that this has occurred, the AEA account managers must discuss the situation and decide who will take the lead with this customer.

After the prospect is assigned to an account manager, the account manager contacts the multifamily property manager/owner to do an additional screening for program eligibility. Once the customer's eligibility is confirmed, the assigned account manager builds on initial contact with a property owner to assess interest in the program, program fit, interest in an energy survey (if one has not already been conducted), and any plans or ideas the property owner may have for energy efficiency projects.

In the summer of 2010 when the MFEG program was first being launched, Con Edison program staff did report some "hiccups" with the assignment of these program leads among AEA account managers. The Con Edison staff discovered that some of the program leads that they had turned over to AEA were not being contacted in a timely manner. However, Con Edison staff said that they brought this problem to the attention of AEA and it was addressed.

AEA staff did acknowledge some challenges in the implementation of this lead contact and management process, particularly in the recording of information about lead follow-up in the program tracking database. "We've got tools like Salesforce that we were required to use and they require a lot of data entry by the individual doing the work confirming what they're doing at [each] next step [in the program participation process], and that's ... had a negative effect,"

said one AEA representative. “We’ve been trying to figure out ways to elicit the strengths of a sales manager, without the negative consequences that came out of time they have to spend . . . you know putting work in [the database].” Yet based on our experience evaluating many energy efficiency program tracking databases, we do not consider any of the data entry currently required by the Salesforce databases to be unnecessary or excessive.

There was also evidence that the MFEG program was not consistently tracking information that would help it determine which marketing or outreach efforts had been successful. DNV KEMA staff noted in its review of the Salesforce database that customer records were often missing information about how a customer heard about the program. However, Haggman staff indicated that they used Business Wire tracking software that allows them to link calls into the program call center with certain ad campaigns or marketing activities. The Haggman interviewees said that they regularly analyzed these data to see which marketing activities had been more successful than others.

After discussions of the draft report with Con Edison staff, Con Edison provided us with some presentations from AEA/Haggman which summarized this analysis of program lead source information. The charts in these presentations showed lead data that was more comprehensive than the data in Salesforce, but like the Salesforce data it treated the toll-free numbers inappropriately as program information sources.

Marketing and Outreach Findings from the Participant and Nonparticipant Interviews

The evaluation team asked both program participants and nonparticipants whether they were aware of the Con Edison Multifamily Electric and Gas program. Nearly all (97%) participating respondents were aware of the program and 80 percent of the nonparticipants were also aware of the program. It should be pointed out, however, that the nonparticipants we interviewed were multifamily property managers/owners who had been listed in the program’s Salesforce as prospects. They therefore had likely been contacted by the AEA account managers multiple times and most of them had received free energy surveys through the program. Therefore it was not surprising that program awareness was so high among this particular nonparticipant group.

We then asked the program-aware participants and nonparticipants how they became aware of the MFEG program. Interestingly the program-aware participants cited very different sources of program information than the program-aware nonparticipants did. Table 3-5 shows that the most-cited sources of information among the program-aware participants were word-of-mouth, organizations, and trainings. In contrast, the most-cited sources of program information among program-aware nonparticipants were the Con Edison website, mail/email, and TV/radio/print advertisements. This suggests that while in-person, face-to-face forms of program outreach are certainly more expensive, they may have a better chance of success than some of the mass advertising approaches.

Table 3-5
Where Multifamily Property Managers/Owners
Heard About the MFEG Program

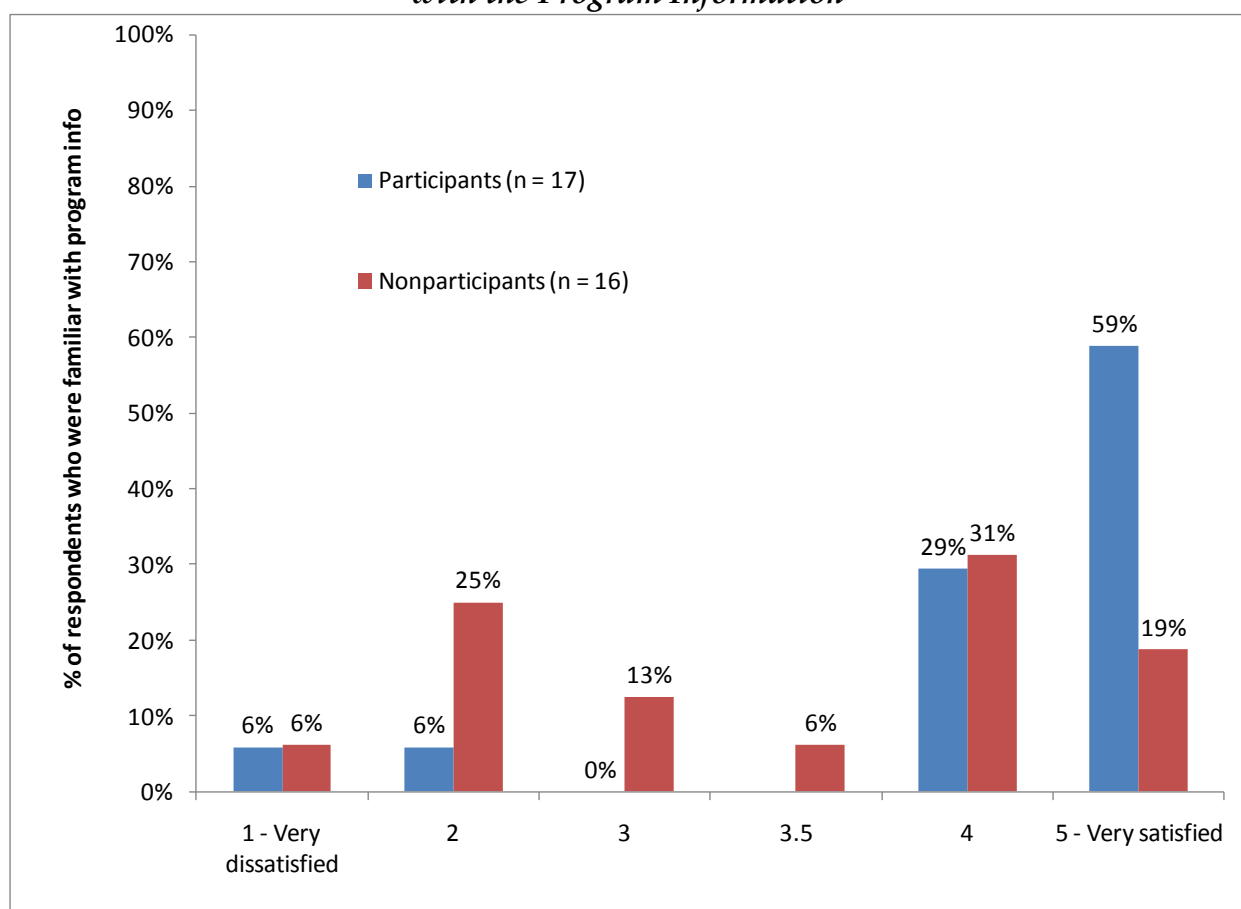
Source of Program Information	Program-Aware Participants n=30	Program-Aware Nonparticipants n=20
Word of mouth	30%	15%
Organizations	17%	10%
Training/seminar	13%	-
Solicited by Con Edison/AEA	10%	5%
Flyers/mailings/inserts/email	6%	20%
Con Edison website	-	40%
TV/radio/print	-	20%
Power of Green/ Green Team	-	5%
Other	10%	-
Don't Know	13%	15%

In addition to asking participants and nonparticipants about how they heard about the program, we also asked them whether they recalled receiving any program information either from Con Edison or AEA. Twenty-five of the 31 participants (81%) said that they recalled receiving this information. When asked what kind of information they received, participants mentioned brochures or fliers the most frequently (36% of those recalling receiving information). Fifteen of twenty five (60%) nonparticipating respondents recalled receiving information from either Con Edison or AEA. The most common sources of information cited were the Con Edison website (47% of those recalling the information) and phone calls from AEA (47%).

We asked both participants and nonparticipants to rate their satisfaction with the information they received that explained how the program worked. We asked them to use a five-point satisfaction scale where five indicated “very satisfied” and one indicated “very dissatisfied.” We only asked this question of those who appeared familiar enough with the information (e.g., some respondents said that they received program information but it went to their corporate office). Figure 3-5 shows that the 75 percent of the participants were satisfied with the program information compared to only 50 percent of the nonparticipants. Some of the reasons the respondents gave for being dissatisfied with program information included:

- “The audit ended up being a waste of time.”
- “I’m a layman and the website was too technical.”
- “I was unclear of how narrow the scope of the audit would be.”
- “I guess it wasn’t clear enough because in the end it was a waste of time.”
- “We didn’t really know what we were doing but the audit was free so we went for it.”
- “I thought it would be more practical. They came out and did the energy survey, they came out and measured and looked at everything but we never got anything. As a result of the energy audit they wanted to set us up with a bunch of expensive contractors to put in stuff that really wasn’t practical for our buildings. It just seemed like we would have to work with a bunch of expensive contractors to put in things that we thought the program was going to provide and it just didn’t work out.”
- “They couldn’t help once they were here and I have called around and no one knows about the timers (set back thermostats).”
- “Because I spent a lot of money installing a new furnace and boiler and then at the end they said it wasn’t the right one and that I couldn’t get any money. I mean the furnace was from a first rate manufacturer and they said it didn’t qualify after it was installed. I don’t know that much about furnaces.”
- “The information just didn’t spell things out.”

Figure 3-5
Participant and Nonparticipant Satisfaction
with the Program Information



The evaluators asked the participants and nonparticipants to name the best method for Con Edison to send them information about this program in the future. Both participants and nonparticipants preferred email as the method for sending them information, although several individuals pointed out that they already receive "so much email" it is easy to simply delete it. Phone calls and standard mail were the other preferred methods of receiving notification about the program and its offerings. In addition, there were a few other recommended channels of program notification, including working through trade organizations (which was a common means of program awareness, as noted above). Preferred means of obtaining program information are listed in Table 3-6.

Table 3-6:
***How Multifamily Property Managers/Owners
Would Prefer to Get MF&G Program Information***

Source of Program Information	Participants n=27	Nonparticipants n=18
Email	47%	44%
Mail	24%	37%
Phone call	24%	26%
Other	18%	7%

3.1.4 PROGRAM DELIVERY

This section examines the effectiveness of program delivery processes. We first explore participation flow and time lags between key program steps to increase participation. Then, we examine the role AEA plays in program operations and delivery. Finally, we explore how the program is delivered onsite at multifamily homes and buildings with energy surveyors on site. Some findings in this section came from in-depth interviews. Field observations from a member of the evaluation team in October 2011 also proved especially fruitful in understanding program delivery processes.

Program Staff Roles and Responsibilities

Training & AEA / Energy Surveyor Interaction

When the Con Edison MFEG program began, it not only marketed to multifamily property managers/owners but also tried to recruit contractors to work with the program. The program staff not only used their personal connections and strategic partnerships to attract these contractors, but also sent out direct mail to build program awareness among them. There was also a component of the program for training contractors about program requirements. “What we’ve established is regular, monthly training and orientation of contractors to become participating contractors in the program,” said one AEA interviewee. “And they both become referral sources and potentially implementers of work.” Yet while program staff at Con Edison and AEA were generally satisfied with the energy surveyors and contractors who are helping to deliver the program, most indicated that these contractors and energy surveyors had not played a significant role in helping to promote the program and bring in new participants through

referrals. Further evidence of this comes from the interviews with multifamily property manager/owner interviews where none of the interviewees mentioned an energy sureveyor or installation contractor as a source of program information (see Table 3-5).

Energy Survey Scheduling and Tenant In-Unit Promotion

Regardless of the source of the lead, initiating a customer in the program generally begins with action from an AEA account manager as the program implementer. The manager sends a scheduling task or lead to the logistics (aka scheduling) team through Salesforce software. This software will include a large amount of information, such as what type of energy survey is going to be fielded and if the application is on file. There is also an electronic map. This map has all the sites that need to be scheduled pinpointed on it. When a logistics member runs the mouse over it, all the information needed to schedule a site is shown. Additionally, these pinpoints have letters. These letters correspond to letters along the bottom of the page and indicated the date that this information was downloaded. This helps the logistics member call and schedule within an appropriate time frame over the next few days.

AEA staff told the evaluators that while crews are scheduled to work on a specific multifamily property, they may find additional customer acquisition opportunities while out in the field. If crews have downtime between energy surveys, they make it a practice to walk around the surrounding neighborhood and gather property manager information for buildings in an area. The Account Manager then cold calls these additional properties in the neighborhood to explain the MFEG program and attempts to recruit them. The Account Manager sends this newly-gathered building information to AEA's staffers skilled in ArcGIS software and verifies that the building is eligible (e.g., is a Con Edison firm gas customer, has 5-75 dwelling units, etc.). AEA staff members put all the information into Salesforce as well as other relevant information such as refusals, missed calls, etc.

In the interviews AEA staff mentioned that scheduling appointments with the property managers is occasionally challenging. They will try to contact them via e-mail and by phone, and they do not have an allocated call or contact attempt limit. If scheduling an appointment is particularly challenging the AEA staff may bring this to the attention of the AEA manager for that account, , who may decide to close out the lead.

The MFEG program's protocols for contacting tenants in multifamily buildings are very different. First, there are no in-unit cold calls. Once a property owner or superintendent is engaged with the MFEG program, a logistics team member will ask him or her for permission to "flyer" the building. Flyers are posted throughout a building usually three days in advance of the field staff who will do the in-unit direct installs. AEA has found that this three day time window is long enough to build tenant awareness within the building, but not so long that tenants forget about the appointments. AEA staff said that neither the flyer postings nor the in-unit direct installs tend to happen the same day as the common area energy surveys.

The process of "flyering the building" consists of a number of different pieces shown below.

Free energy conservation opportunity flyer

Figure 3-6 shows an example of the free energy conservation opportunity flyer that the program puts under tenant doors. The flyer prominently features the AEA name at the top of the page. The flyer is further personalized for the building tenants by listing the name of the property manager. The flyer also indicates the building owner or superintendent has applied for the Multifamily Energy Efficiency Program, and that the Con Edison Green Team will need to visit every apartment. The flyer specifies which date the crews will be in the building along with what energy-efficient measures the tenants are eligible for. The flyer concludes by urging interested tenants to contact AEA to pick an appointment time. This sheet is in both English and Spanish. However, it does not mention the posted sign-up sheet.

Figure 3-6:
AEA Energy Opportunity Flyer



ASSOCIATION FOR
ENERGY AFFORDABILITY, INC.

BRONX OFFICE

105 Bruckner Blvd, Bronx NY, 10454

Tel (718) 292-6733 ext.8264

E-mail: iruiz@aeanyc.org

TO: RESIDENTS OF 1901 Grand Concourse, BX, NY

FROM: CON EDISON MULTIFAMILY ENERGY EFFICIENCY PROGRAM

SUBJECT: FREE ENERGY CONSERVATION OPPORTUNITY

The Morgan Group has recently applied for the Con Edison Multifamily Energy Efficiency Program. Con Edison's Green Team will need to visit every apartment in your building in order to identify energy saving opportunities; ultimately helping you to save money on your energy bill. We will be in your building on this date:

******10/25/2011 TUESDAY from 8am – 8:30pm******

Every unit is eligible for **free installations** of:

- Up to 6 new energy savings CFL light bulbs
- A new smart power strip
- New showerheads
- New faucet aerators (kitchen & bathrooms)

Your presence and permission is required to receive these measures, please make sure that someone over the age of 18 is available to give access on the scheduled day. The installation will only take 15 minutes. Please have your Con Edison account number ready (*you can get this from your paper bills or from your account at www.coned.com*). You **must** have this information ready and available in order to receive these free measures.

If you have any questions or would like to let us know what time is best for us to arrive at your apartment, please contact Mr. Ivan Ruiz at (718) 292-6733 extension 8264. **Thank you.**

Con Edison Green Team flyer

Figure 3-7 and Figure 3-8 show the front and back of the Con Edison Green Team flyer. The front page of the flyer encourages residents to get their building owner to participate in the common area portion of the program. The back of the flyer lists "10 tips to help you go green". The

evaluator who accompanied the energy surveys and direct installs only observed this sheet being distributed in an English format.

Figure 3-7:
Con Edison Green Team Advertisement (front)

The advertisement is titled "Is your building participating in Con Edison's Multi-Family Energy Efficiency Program?". It features a green sun-like logo with the text "the power OF GREEN" and several green leaves. The text is in a clean, sans-serif font. The background is white with green accents.

Is your building participating in Con Edison's Multi-Family Energy Efficiency Program?

If it's not, it should be. The program can help make your building more energy efficient, reduce costs, save money, and help protect the environment. Con Edison is offering substantial financial incentives for approved energy-efficiency measures.

What does this mean for you?

When your building participates in the program, it can mean savings on energy costs and increased comfort for your building and its residents. As a resident, you may also be eligible for incentives on certain ENERGY STAR®-qualified refrigerators and air conditioners, and other energy-saving products for your individual unit.

Here's how your building can participate. Ask your property owner or manager to **call 1-877-634-9443, or visit us at www.aenyc.org/conedmultifamily**.

Is Your Building Eligible?

Your building may participate if it:

- Has 5 to 75 units (includes rent-controlled, rent-stabilized and market-rate rentals, as well as co-ops and condos); and
- Receives a Con Edison bill and pays the system benefits charge (SBC)

The Con Edison Green Team offers:

- Financial incentives for approved equipment upgrades
- Incentives for replacing inefficient refrigerators and room air conditioners in individual units with ENERGY STAR-qualified models
- Energy surveys to show where your building could save energy and money through this program
- Free smart power strips and compact fluorescent lightbulbs (CFLs) in individual units


Possible energy efficiency improvements may include:

- Heating system upgrades to high-efficiency equipment
- Heating control installation, including energy management systems, boiler reset controls, and programmable thermostats
- Roof and heating pipe insulation
- High-efficiency fluorescent lighting, occupancy sensors, and LED exit signs
- Premium efficiency motors for pumps and fans
- Central air conditioning upgrades

Visit **www.aenyc.org/conedmultifamily** for a full list of eligible measures and incentives.

See the other side for tips from our Green Team on how you can start saving money and energy now.

*Actual recommendations will vary by building and by Con Edison account type.

 **conEdison**
the power of green


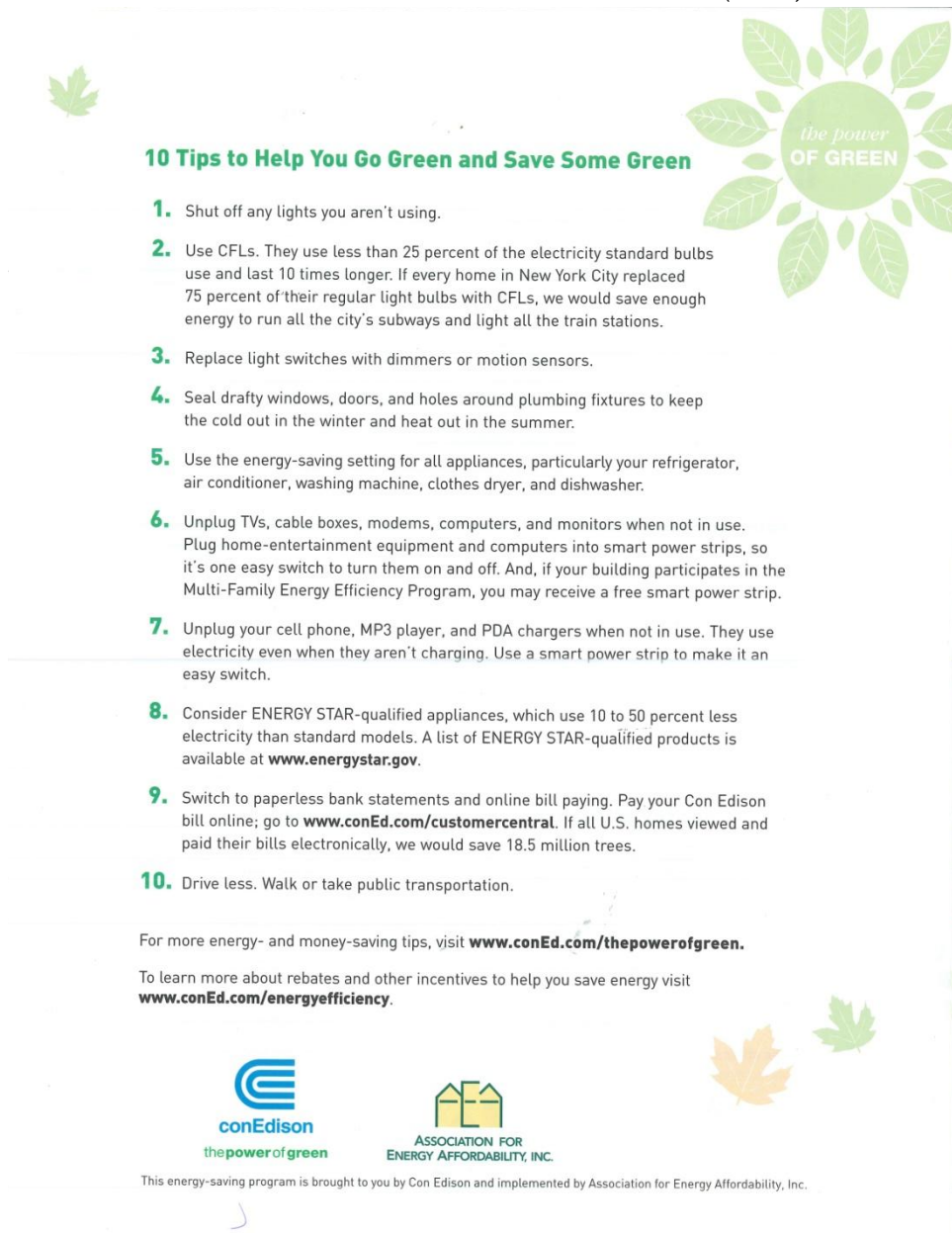
 **GREEN TEAM**

Figure 3-8:
Con Edison Green Team Advertisement (back)



Sign-up sheet

In addition to the two flyers shown above, there is a sign-up sheet for tenants. The sign-up sheet is usually posted on a wall surrounded by the previously-mentioned flyers.

Con Edison MFEG Common Area Energy Surveys and In-Unit Direct Installs

A member of the evaluation team not only interviewed program representatives in the AEA offices but also observed an in-unit install team and a common area energy survey team while in the field. The evaluator observed that scheduling and program communication about the in-unit direct installs differed significantly from the energy surveys for the common areas. Those process differences are documented below.

In-Unit Direct Installs

According to the evaluator observing the field activities, the morning crew for the in-unit direct installs began work at 8 AM and visited several buildings in a day. The morning crew first determined who had signed up for direct installs within the building and visited those apartments first. After the crew contacted the tenants who had signed up to participate, they canvassed the whole building, searching for other potentially interested customers. This first team did a round at each building during the morning and afternoon hours. They maintained a “knock sheet” to keep track of refusals, requests for returns, not available, and if a successful install took place.

The evaluator also observed an evening crew arriving midday and beginning similar work. The morning crew’s knock sheets were transferred to this second team, who first returned to those apartments that had signed up for appointments but which did not have a successful install. The second crew then went door to door based on what was indicated on the knock sheet. There was some overlapping between the morning and evening direct install teams working in an area. The evening crew ended its shift at 8pm.

One team that the evaluator observed consisted of two people. When the tenants answered the door, the team members showed them program identification and greeted them warmly. Both team members were able to speak English and Spanish with tenants, as appropriate. If the team members were unable to effectively converse with the tenant in either English or Spanish, team members sought to find a translator within the apartment building. The team members explained to tenants who answered the door what they are planning to do and a brief overview of the program, even in cases where the tenants had signed up to participate.

AEA staff told staff that they aim to be consistent in the way they greet tenants and identify themselves. However, occasionally they will tailor their message for a particular situation. For example, AEA staff told the evaluators that they once visited a building that had recently

changed its electric supplier (New York has retail electric competition) and the tenants had actually seen their utility bills increase. When the AEA team learned about this, they gave special emphasis to the energy efficiency part of their message. AEA staff said that they are not always successful at dispelling tenant fear or skepticism, and tenants occasionally ask team members to return at a different time. When this occurs, team members record this on the knock sheet. AEA staff said that if they can get the building supervisor to go with them door to door, they tend to have a better installation rate (close to 100%).

In the apartments where the evaluator accompanied the direct installers, each tenant received a smart strip, three 60-Watt equivalent CFLs, and three 100-Watt equivalent CFLs (there also may have been other measures installed that the evaluator did not observe). The evaluator was interested to observe that the direct installers were replacing existing CFLs with the program-rebated CFLs. When they did this, the direct installers explained to the tenants that the new CFLs from the MFEG program provided a higher quality light. Our evaluation team asked Con Edison staff during a follow-up interview if replacing existing CFLs with new CFLs was program policy. The Con Edison staff said that program electric savings estimates assume that CFL are replacing incandescent bulbs and that replacing CFLs with CFLs was not program policy. Following this finding, Con Edison worked with AEA to try to build into the field staff training a reemphasis that that CFL's are to replace existing incandescent bulbs only.

The evaluator estimated that each in-unit direct install took approximately 15 minutes. While in an apartment unit, the evaluator observed the field staff asking for the tenant's Con Edison utility bill in order to gather some required information that was on the program application form. The evaluator also observed that, while filling out this paperwork, the field staff occasionally, but not consistently, verbally explained the refrigerator replacement aspect of the program because this information did not appear in this paperwork.²⁶ Team members also reported to the evaluator that they discuss available air conditioning program incentives when a tenant inquires about available options. The evaluator noted however, that team members do not consistently discuss these programs in-person while with the tenants.

²⁶ As discussed elsewhere in this report, the MFEG program has found that is difficult to find refrigerators that are old enough to qualify for the program, so this may explain why field staff were not mentioning the refrigerator replacement rebates to all customers.

The AEA staff said that whether a field team returns to a building at all is based on the knock sheet. A team's goal is direct installs in 50 percent of the apartments, so if that goal is met, the field team is unlikely to return to the specific building.

The AEA staff explained to the evaluator that after a full day of cycling in the building, a field team does not typically return to the building to recruit more tenants for direct installs (once they were unable to schedule the first time around) until at least two months later. According to our in-depth interviews, tenants do not receive any survey reports or documentation of program recommendations. In the discussions over this draft evaluation report, the MFEG program manager confirmed that tenants do not receive a survey report with recommendations for additional energy efficiency opportunities. These reports are only provided for the common areas. Instead the tenants receive a checklist of the measures that were installed in their dwelling units, which they must sign. However, as described below, the evaluator did observe the AEA field staff discussing refrigerator and air conditioner measures with the tenants during the direct installs.

Common Area Energy Survey: Pre-Energy Survey Activities

A member of the evaluation team was also able to shadow a team of three AEA energy surveyors in the field, including one supervisor-level team member, who were conducting common area energy surveys. When the team arrived for a common area energy surveys, they had contact information and building information on hand in hard copy form. Much of the information was sourced from Google Earth. The energy surveyors arrived on-site carrying a measuring wheel, measuring tape, flashlights, screwdrivers, light readers, camera, and a borescope (for detecting insulation inside a roof). The AEA energy surveyors and direct installers dressed in grey shirts with visible Con Edison logos on the shirt front. The back of each shirt displayed the Green Team logo. The energy surveyors were also wearing Con Edison identification cards around their necks.

The evaluator observed two different common area surveyors. In both energy surveys, the building superintendent was the person working with the energy survey team. In one instance, the field supervisor on the energy survey team presented an overview of the program and explained what the team would do while present, but the superintendent still called the building owner to verify that the appointment should continue. For the second energy survey, the field supervisor did not come with the other two members of the energy survey team to

begin the appointment and the superintendent did not fully understand what the energy survey offered. He asked the energy surveyors, “What is this all about?” and only then did the energy survey team introduce their plan of action. Although admittedly a small sample size, these two common area energy survey experiences indicate that the building owners who sign up for the energy survey sometimes do not communicate clearly with their building supervisors about the purpose and timing of the MFEG energy surveys.

The Common Area Energy Survey

The first energy survey the evaluator observed was a lighting-only survey. The energy survey team explained to the evaluator that while she was present, they would work together as a team that day, but that was not typical. The team traveled throughout the building and divided the work and roles. The supervisor tended to engage the building superintendent and the other energy surveyors took pictures and recorded observations about lighting opportunities. The team focused on discussing lighting fixture and bulb upgrades throughout the property. The evaluator did not observe them recommending any non-lighting measures or any other Con Edison energy efficiency programs during the audit. No additional program information was handed out when they were there. In discussions concerning the draft report, Con Edison staff noted that it was possible that in this case the AEA staff had pre-determined that the building was only qualified for electric measures, although there was no way to know for sure without further inquiries.

The second energy survey the evaluator observed was a site where the owner was interested in replacing a boiler and adding roof insulation. The team assessed the roof first, which spurred a number of questions from the superintendent. Some of these questions such as: “Why are you measuring the roof? Why are you subtracting areas of the roof? What is this all about?” the energy survey team was able to answer. However, other questions from the building supervisor the energy survey team had more difficulty answering. These included: “How do we include our [the property management company’s] engineer in the process? What is the name of the auditor that I will speak with after the report is done? When will the building be flyer for the direct installs?”

In this second energy survey the owner of the multifamily property already had plans in place for a new Lochinvar hot water system, electrical resistance heaters and a new basement configuration, which was discussed during the energy survey. Therefore, the AEA energy

survey team was hard-pressed to make appropriate suggestions. They suggested insulating the pipes and they measured them, despite the owner's plans for changes in the basement configuration. As was the case with the first energy survey, the energy survey team did not leave any additional program information with the supervisor.

The evaluator noted that both participants who received common area energy surveys generally seemed satisfied with the energy survey and with the answers the energy surveyors provided during the appointment. Our in-depth interviews during this evaluation revealed that building or property owners (or other lead decision maker associated with the property) who go through a common area energy survey receive an energy survey report. The report is based on the New York state TRM and calculates and displays potential energy savings and incentives if the property owner chooses to do additional energy efficiency upgrades. Program staff confirmed that the report documents results and serves as a discussion tool when working through other potential energy efficiency improvements. The evaluation team did not review the energy survey report as part of this evaluation.

Feedback – General

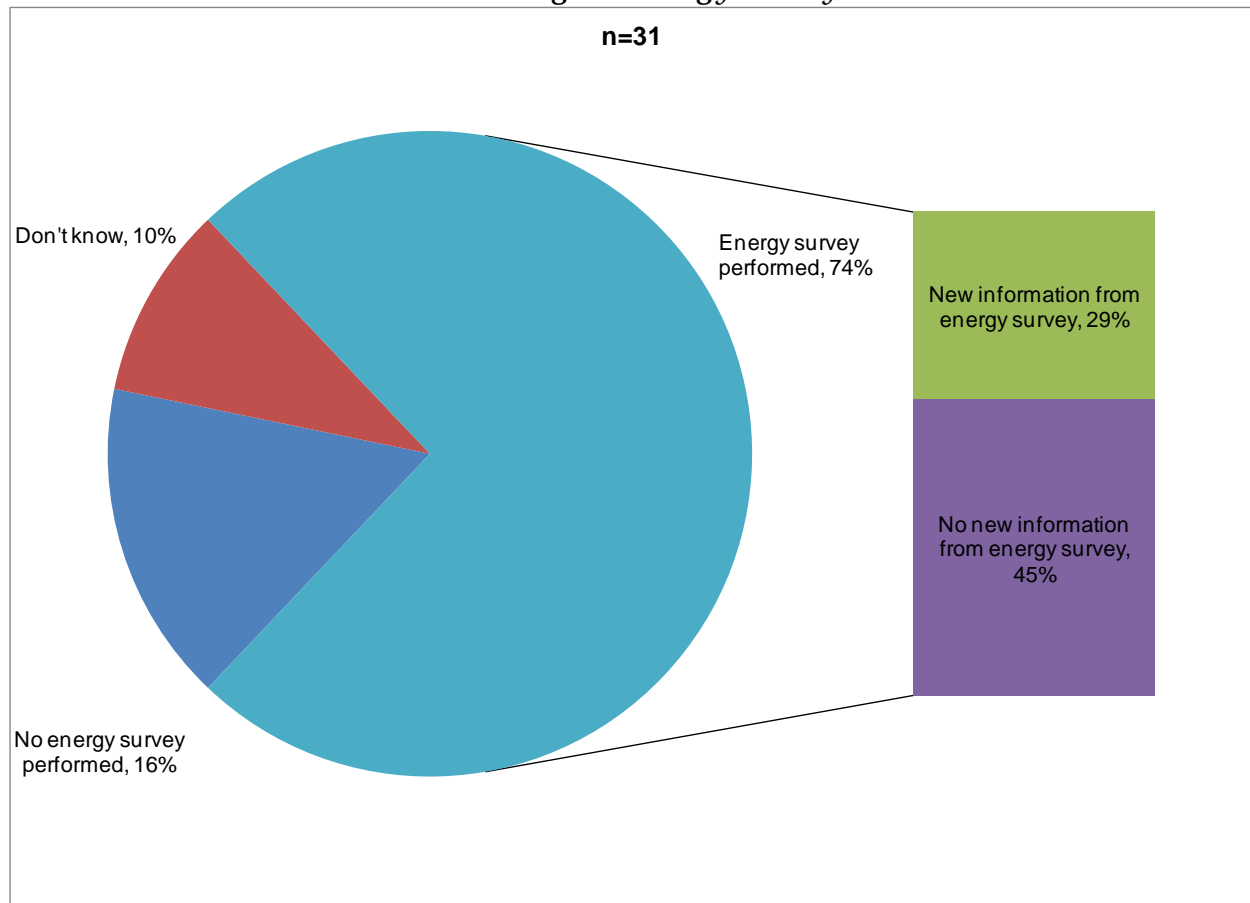
We measured MFEG program short term outcomes by interviewing participants and nonparticipants about their experiences contacting the program. In the case of program participants, we further asked them more specific questions about program interactions and recommendations, the energy survey process, and whether they plan to do anything further with the program recommendations or additional Con Edison programs.²⁷

Most participating multifamily property managers/owners (74%) recalled receiving the free energy survey, some stating that they did not (16%) and a few did not know (10%). We asked the participating respondents who recalled receiving the energy survey if the energy survey showed any energy efficiency opportunities in their building which they were unaware of. Only 39 percent of those recalling the survey and 29 percent of all participants recalled receiving energy efficiency information or recommendations of which they were not previously aware.

²⁷ As indicated in the appendices, we used the word “audit” rather than “energy survey” in the interview guides we administered to participating and nonparticipating multifamily property managers. We did this because the term “audit” is more universally used for such activities and we therefore assumed it would be more recognizable to the interviewees than “survey” which can have a wider range of meanings. However, in discussing these interview findings, we have chosen to use the term “energy survey” to make it consistent with the rest of the report.

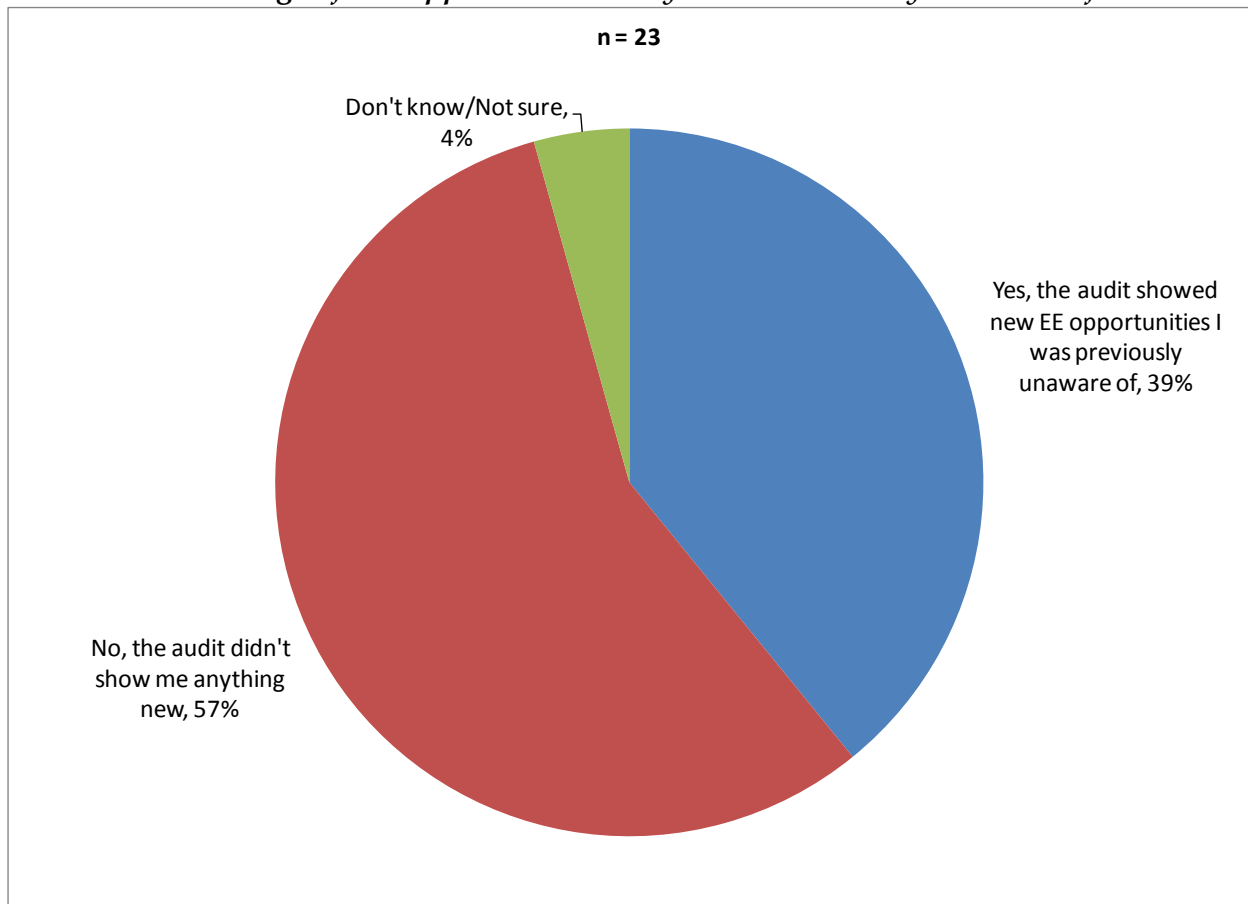
Figure 3-9 breaks down the responses of all the participants and Figure 3-10 breaks down the responses of just those participants who recalled the energy surveys.

Figure 3-9:
Participant Recall/Assessment of
MFEG Program Energy Surveys



We also asked the participants who said that they had learned new things from the energy survey what new energy efficiency information they gained. They mentioned information about sensors/controls for lighting and HVAC (most commonly-cited), roof insulation (second most-cited), LED exit signs, pipe insulation, windows, doors, and unspecified types of energy-efficient lighting.

Figure 3-10
Whether Participants Said the Program Energy Survey Gave Them Knowledge of EE Opportunities They Were Previously Unaware of



We also asked both the participating and nonparticipating multifamily property managers/owners whether they recalled the MFEG program energy survey and whether they found the audit findings to be useful. While 74 percent of the participants recalled receiving the energy survey, only 40 percent of the nonparticipants recall receiving an energy survey. When we asked the 10 nonparticipants who recalled the program energy survey what they thought about it, seven of them (70%) gave at least some negative feedback on it.²⁸ As discussed elsewhere in this report, this negative feedback towards the free energy survey was likely influenced by the awareness of and confusion with some of the more comprehensive energy

²⁸ For the nonparticipants we asked an open-ended question: "What did you think of the audit?" We also asked the nonparticipants to provide a satisfaction rating for the "program information" which was intended to cover program educational and marketing materials, but some nonparticipants also commented on the audits. For the participants we asked them to separately rate their satisfaction with the program information and the audit.

audits offered by NYSERDA and others. Some of the negative responses of the nonparticipants included:

- “It was a waste of time. They only superficially looked at the common area and one apartment and told us to get more CFL's and to replace the electric baseboard with gas heat. We already knew that. They didn't really give any advanced recommendations/ price estimates.”
- “It was pretty rudimentary. They didn't really give in-depth info, we were looking for equipment and prices.”
- “Narrow scope, no feedback.”
- “They were fast and didn't do a very good job in my opinion. I thought they would go fixture by fixture, appliance by appliance but that was not the case. I don't remember getting any feedback at all. ... It was a waste of time.”
- “I think we got a report, but it brought up the questions I just told you about the pumps, the water heater, and more. So I need to get those questions answered before I move forward. But it's been five or six months since we heard from anyone. I think they've given up on us.”
- “Terrible. Very, exactly what I expected, basic though, not a good job quantifying or promoting. No compelling argument made to do it. Some measures were recommended but they would overlook everything else. For example, the cost of insulation they don't include the cost of removing and replacing the dry wall or the cost of cleanup and moving the tenants. Their recommendations are basic and they ignored old windows.²⁹ Report has a limited scope. Would have appreciated they go beyond the scope of just what they provided in incentives.” [The interview here asked the respondent whether he meant that they would rather hear about energy improvements even if they are not covered by Con Edison incentives and he said ‘yes.’”]

²⁹ The Con Edison MFEG program does not offer rebates for windows although the NYSERDA MPP program does. Therefore this comment might be additional evidence of customer confusion between the energy surveys/audits offered by the MFEG and MPP programs.

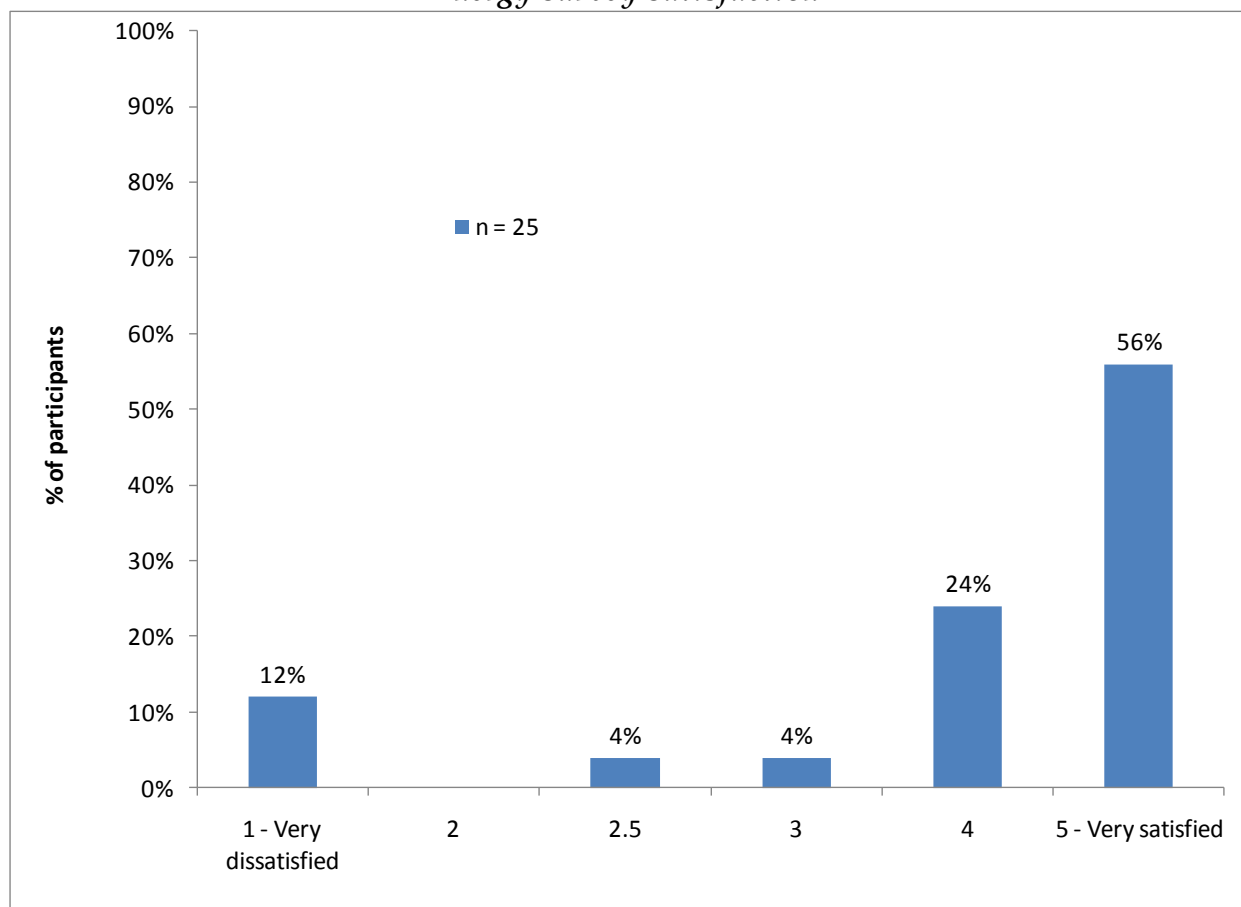
- “They only asked a few questions and didn't understand what I was asking about [timers - set back thermostats]. They never called back because the building was new and had LED lights. “

We asked the participants to rate their satisfaction with the MFEG program's energy surveys. They were asked to use a five-point scale in which five indicated “very satisfied” and one indicated “very dissatisfied.” Eighty percent of the participants were satisfied (satisfaction ratings of 4 or 5) with the program information they received with an average satisfaction score of 4.2 of 5. This average was largely skewed by a small subset of participant respondents who gave satisfaction ratings of “1.” The following is a list of verbatim responses among participants who expressed high levels of dissatisfaction:

- “It (audit) didn't happen. I was very disappointed that we tried twice and it still didn't work out.”
- “We never received any results or follow up.”
- “Already knew everything. (Audit) didn't help much.”
- “They left out the boiler replacement of the survey, which is what we were really interested in.”

Figure 3-11 shows the full range of responses.

Figure 3-11:
Energy Survey Satisfaction



Interviews with Con Edison staff revealed that they never envisioned the energy surveys to be comprehensive audits but more as tools to “get a foot in the door” with multifamily property managers/owners. Yet our in-depth interviews with the participating and nonparticipating property managers indicated that many had different expectations about what the energy surveys would entail.

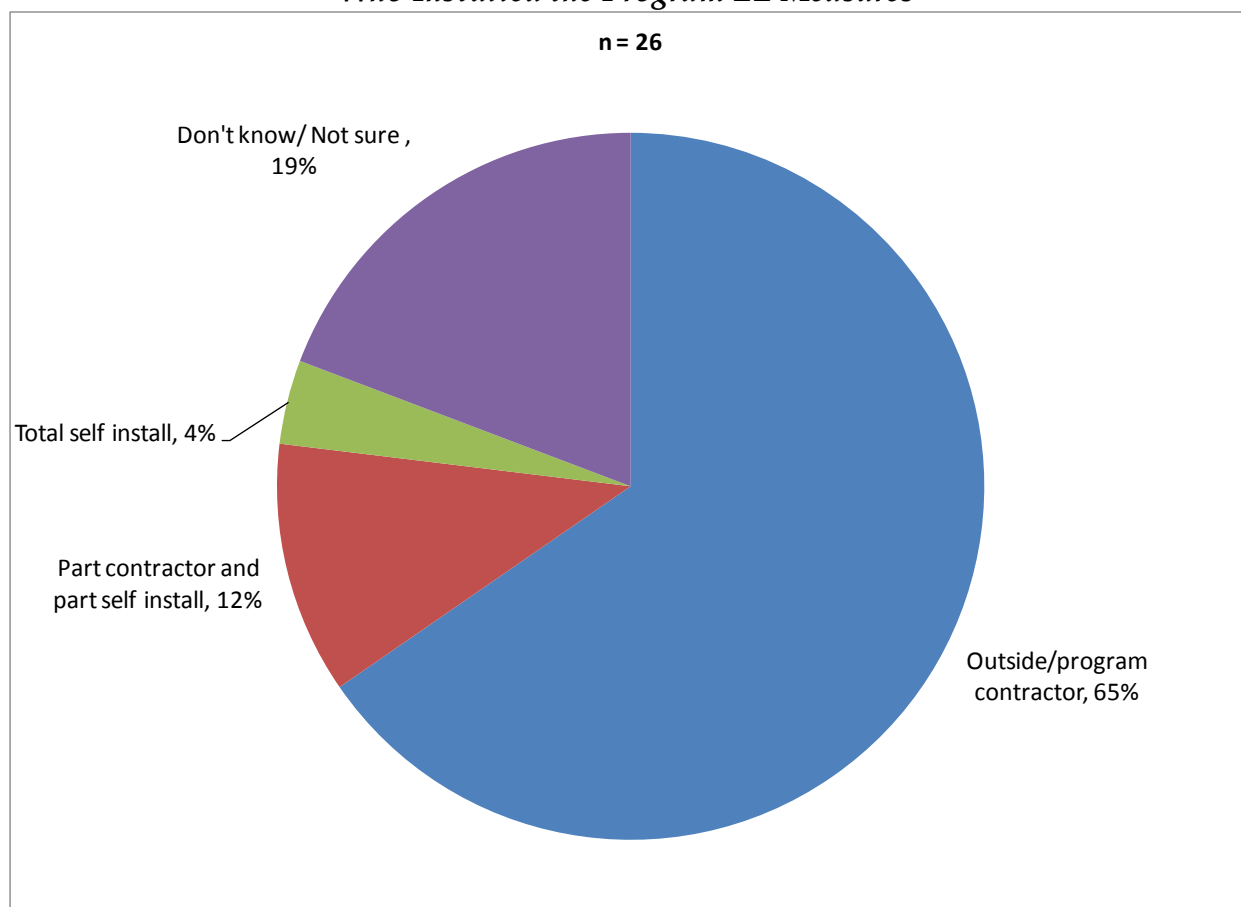
This suggests that both Con Edison and AEA could do more to try to manage the expectations of the multifamily property managers/owners upfront about the level of rigor and comprehensiveness of the free energy surveys. The NYSERDA program does offer multifamily property managers/owners a more comprehensive audit (called a Whole Building Assessment) which may have influenced the expectations of some of the multifamily property managers. One possible enhancement to the MFEG program would be to give the multifamily property managers a choice between the free energy survey (with the limitations of this energy survey

properly explained) and a more comprehensive energy audit similar to the NYSERDA audit in which the property manager would have to either contribute to the cost or commit to some EE measures. Even if most multifamily property managers still selected the free energy survey option, being presented with this option will likely help manage their expectations about what they're getting with the free energy survey.

Participant Feedback: Energy Efficiency Equipment

We asked the participating multifamily property managers/owners who it was that had installed the energy-efficient equipment at their properties. Almost two-thirds (65%) said it was installed by a contractor. Since it was not always clear what sorts of contractors these were (e.g., program contractor, outside contractor, Con Edison contractor, etc.) we grouped all the contractor responses together (Figure 3-12).

Figure 3-12
Who Installed the Program EE Measures



A few participants mentioned issues with their installations. Issues included:

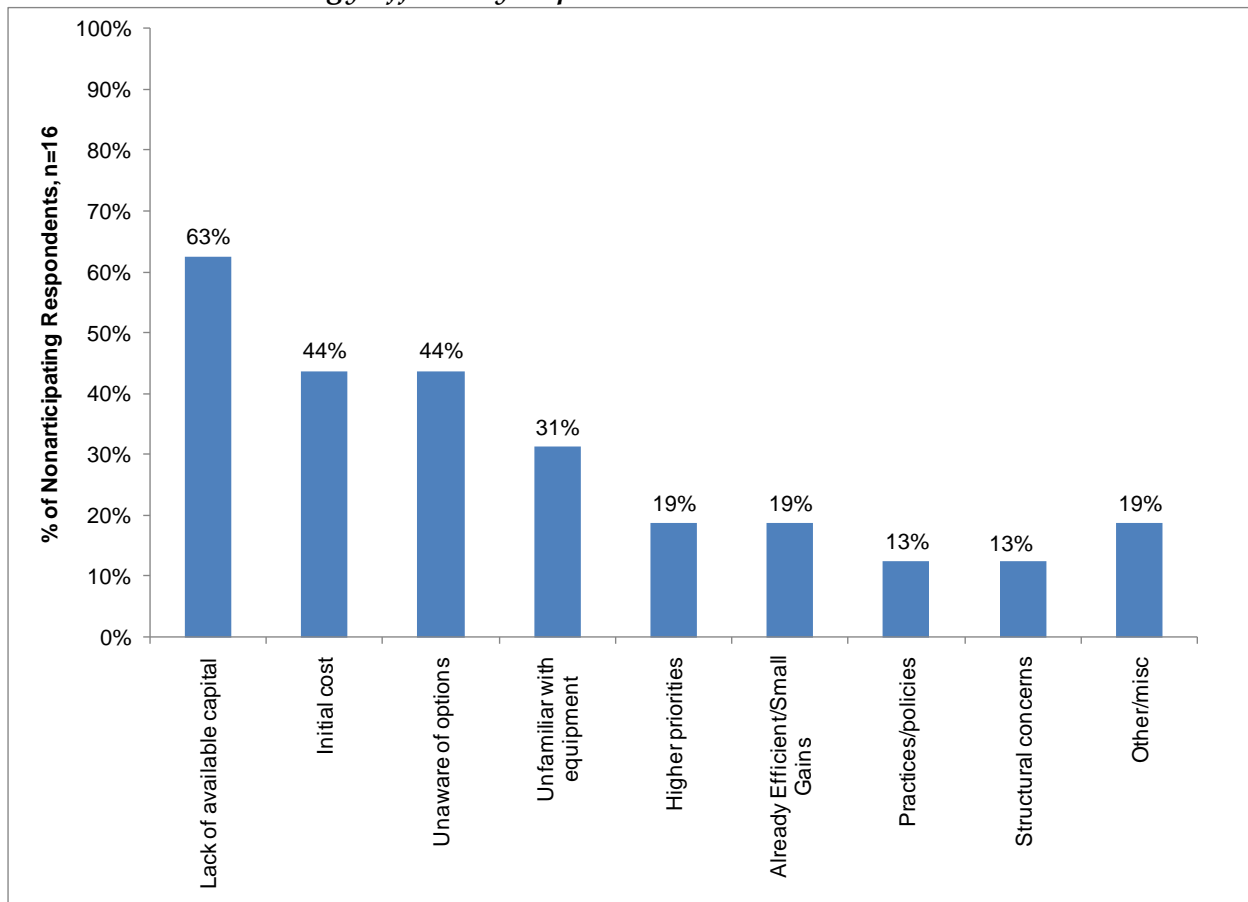
- “Lack of communication from contractors; little notice provided”
- “Inefficient: constant installation problems with contractor and cost overruns”
- “New equipment had issues: boiler made loud noises once installed”
- “Contractor broke existing equipment”
- “Took longer than expected.”

While there were issues with these installations, participants stated that contractors worked with them and the issues were eventually resolved. Following the installations, there were some complaints from tenants of the apartment buildings. Of the thirty-one participating respondents, five (16%) reported complaints from tenants after measure installation. Four of these five (80%) were related to lighting – the bulbs seemed to burn out frequently and were expensive to replace. One of these was due to better control of heat within units. Tenants had become used to having their apartments as warm as 85 degrees in the winter and were not pleased with the heat being regulated to 70 degrees. However, the participant who cited these tenant complaints acknowledged that this temperature reduction was one of the objectives of the installations anyways.

Nonparticipant Feedback: Energy Efficiency Equipment Installation Barriers

We asked nonparticipating respondents about factors that make it difficult to implement energy efficient measures in common areas and in tenant units. The respondents’ most common answer for common areas was a lack of available capital (63%) followed by initial cost (44%), and unawareness of energy efficient options (44%). Barriers to common area improvements are shown in Figure 3-13.

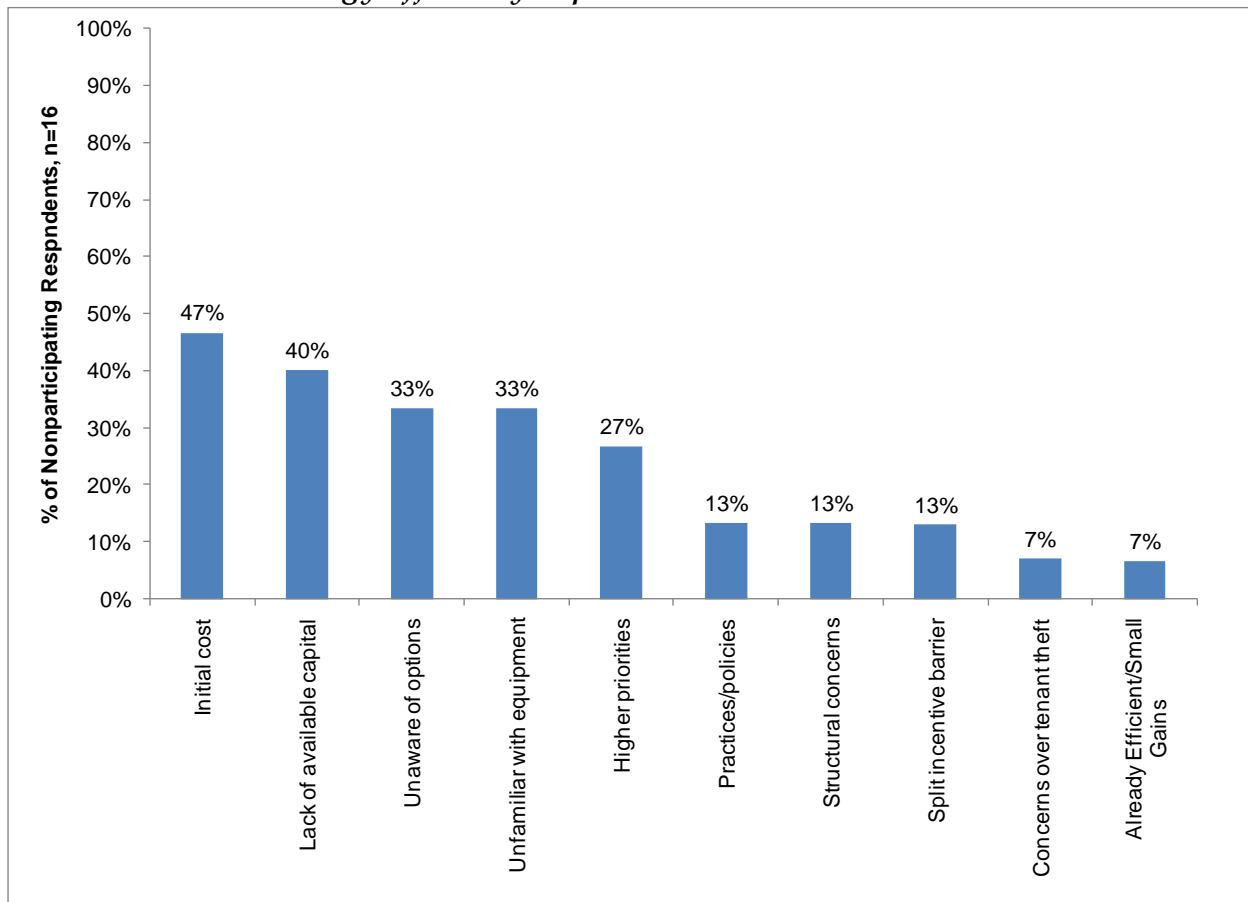
Figure 3-13:
Nonparticipating Respondent Barriers to
Energy Efficiency Improvements in Common Areas



*Totals exceed 100% as multiple responses were accepted.

We also asked the nonparticipating property managers/owners if there were barriers to installing energy efficiency improvements in tenant units. Figure 3-14 shows the most common responses for tenant units similar: initial cost (47%), lack of available capital (40%) and unawareness of options (33%). While the barriers to energy efficiency improvements in tenant units were generally very similar to those cited for common areas, a few tenant-specific barriers were also cited. These included concerns that tenants might take the energy-efficient measures (such as CFL bulbs) with them, as well as citation of the classic “split incentive barrier.” As discussed above, this latter barrier occurs in the multifamily environment because the person purchasing the energy using equipment (e.g. property manager) is often different from the person paying the utility bills.

Figure 3-14:
Nonparticipating Respondents Barriers to
Energy Efficiency Improvements in Tenant Units

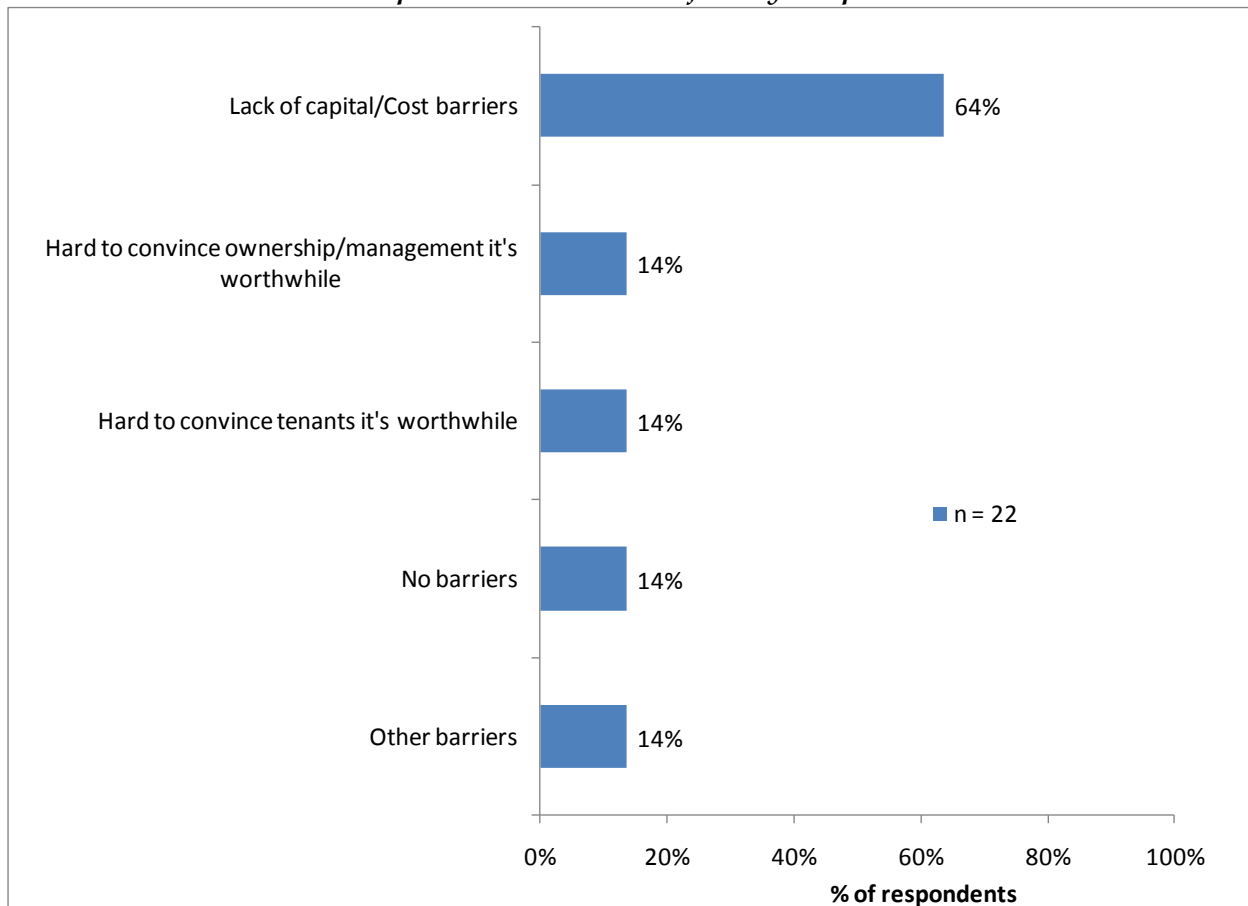


*Totals exceed 100% as multiple responses were accepted.

Participant Feedback: General Energy Efficiency Barriers

In addition to asking the nonparticipants about their barriers to energy efficiency implementation, we also asked the participants: “In general, what factors make it challenging for your company to make energy efficiency improvements in your multifamily properties?” Figure 3-15 shows that nearly two thirds (64%) cited either lack of capital or cost barriers with other barriers such as difficulty convincing tenants or management/ownership being cited much less often.

Figure 3-15
Participant Barriers to
EE Improvements in Multifamily Properties



Program Quality Assurance and Control Procedures

The Con Edison MFEG program does have quality control procedures in place to check whether customers are pleased with the energy surveys and with in-unit direct install procedures. According to our in-depth interviews, AEA performs inspections at 10 percent of the energy survey/direct install sites after a job is complete. Con Edison indicated they are pleased with this level of quality control.

3.1.5 SATISFACTION WITH THE PROGRAM

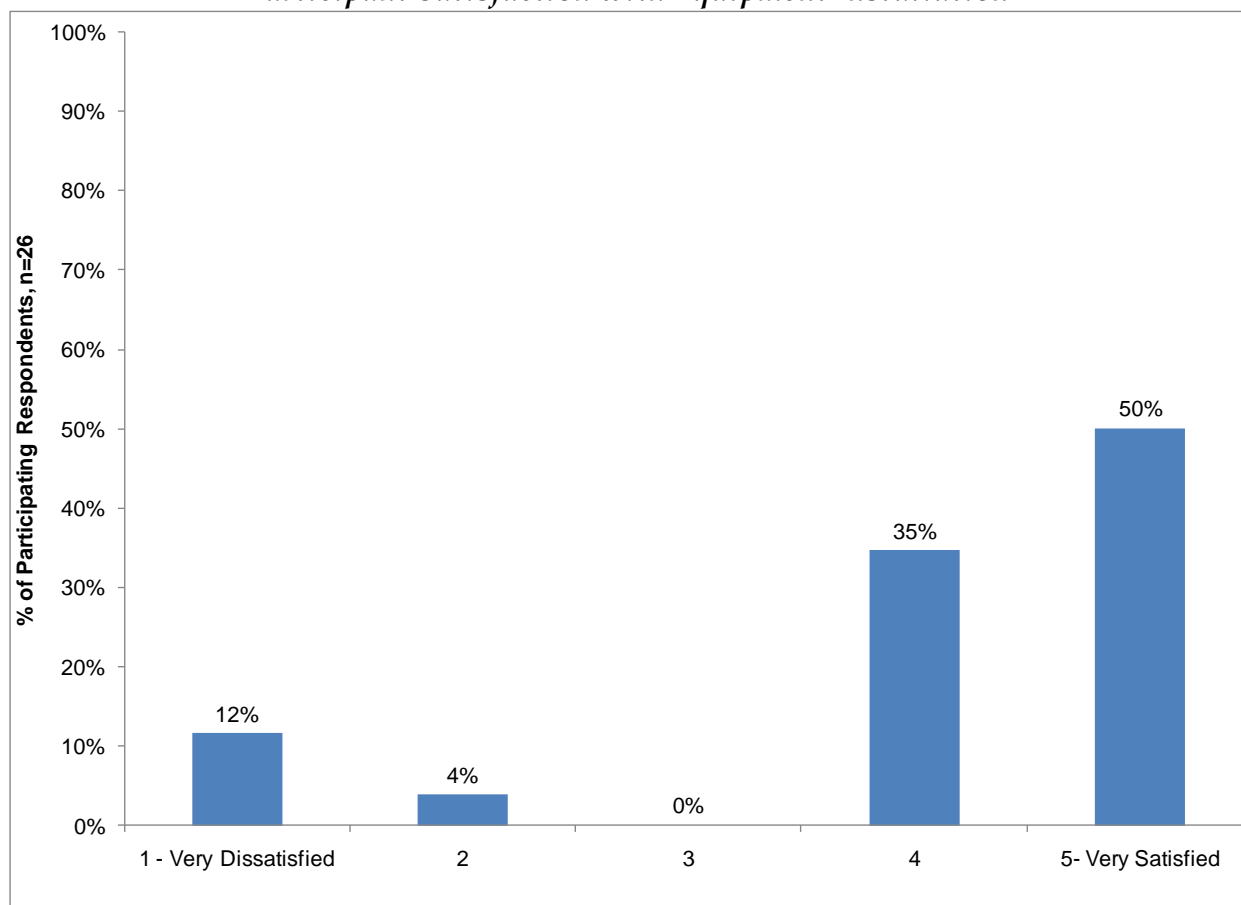
In this section, we examine customer satisfaction with the remaining interactions with the MFEG program (satisfaction ratings with the program information and the energy surveys were already presented above). Program participants were asked about their satisfaction with the

program overall and with key program components during our in-depth interviewing process, including:

- Equipment installation;
- The rebate process;
- The subcontractor, AEA;
- Con Edison Staff; and
- Overall satisfaction.

Participants had an average satisfaction rating of 4.1 out of 5 for installing equipment. The large majority of the participants (85%) were satisfied with the installation, but as Figure 3-16 shows, the average score was skewed lower due to a number of dissatisfied respondents.

Figure 3-16:
Participant Satisfaction with Equipment Installation



Respondents who indicated that they were not satisfied with the installed equipment were asked why. The following are some of their explanations.

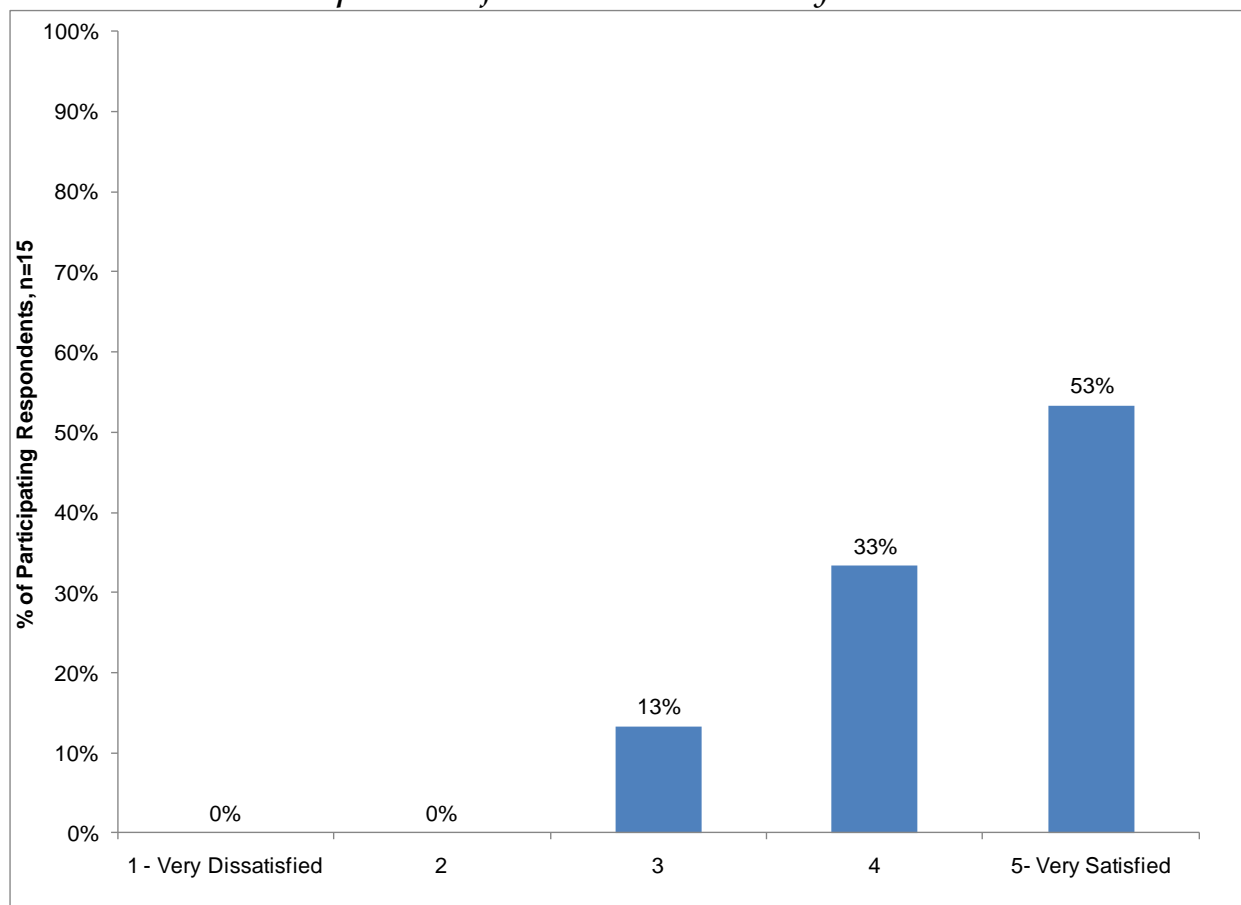
- “I just feel that the audit should have found more things to fix and I was disappointed that I had to install the CFLs and strips myself.”³⁰
- “The contractor was a huge issue- major delays in getting the work done, when it was done it wasn't working properly.”
- “The scheduling was problematic.”
- “Asked for more info, never done.”

³⁰ In response to this comment, the Con Edison MFEG program manager observed that program policy was for the field staff to install these measures and not leave them for the customer to install.

The rebate payment process received an average satisfaction of 4.4 from respondents. The large majority of participants (87%) were satisfied. In this category, respondents did not skew the responses with satisfaction levels of 1 or 2. Results for the rebate process are in Figure 3-17. The few participants who rated their satisfaction at less than 4 out of 5 were asked why, and offered the following responses:

- “I haven't been paid yet.”
- “There's really quite a bit of lag time on receiving the rebates”

Figure 3-17:
Participant Satisfaction with Rebate Payment Process

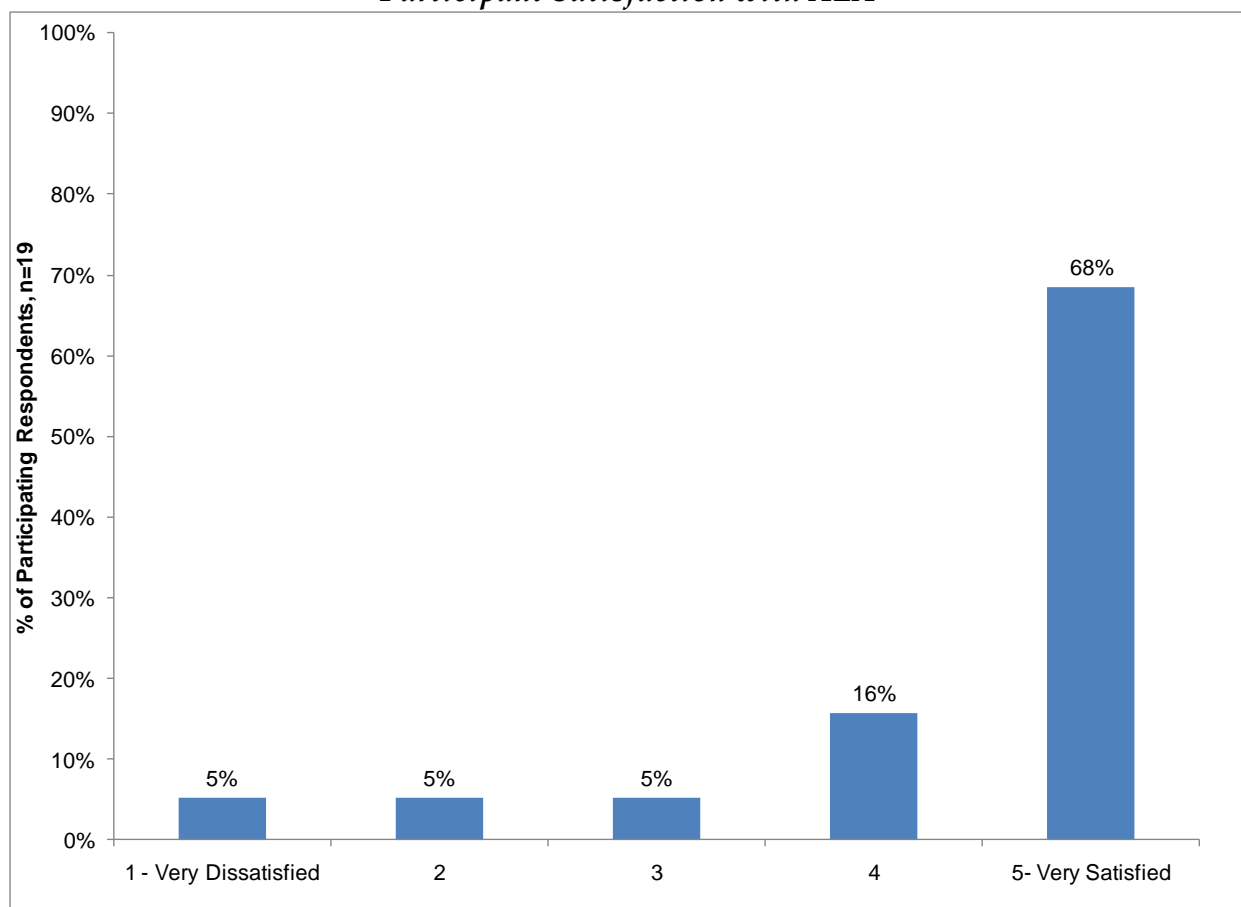


The levels of satisfaction were also good for the subcontractor AEA, with eighty-four percent of respondents reporting that they were satisfied and an average satisfaction score of 4.3. One respondent who was very dissatisfied with all aspects of the program was also dissatisfied with

AEA. Yet, most participants expressed satisfaction. Satisfaction ratings with AEA are shown in Figure 3-18. Reasons for dissatisfaction included:

- “The audit wasn't sophisticated enough. They should have done more.”
- “I think they focus too MUCH on just efficiency ratings, and they don't take our other operational, maintenance, etc costs into play.”
- “Yes – they came with a truck, low intelligence and bad attitudes.”

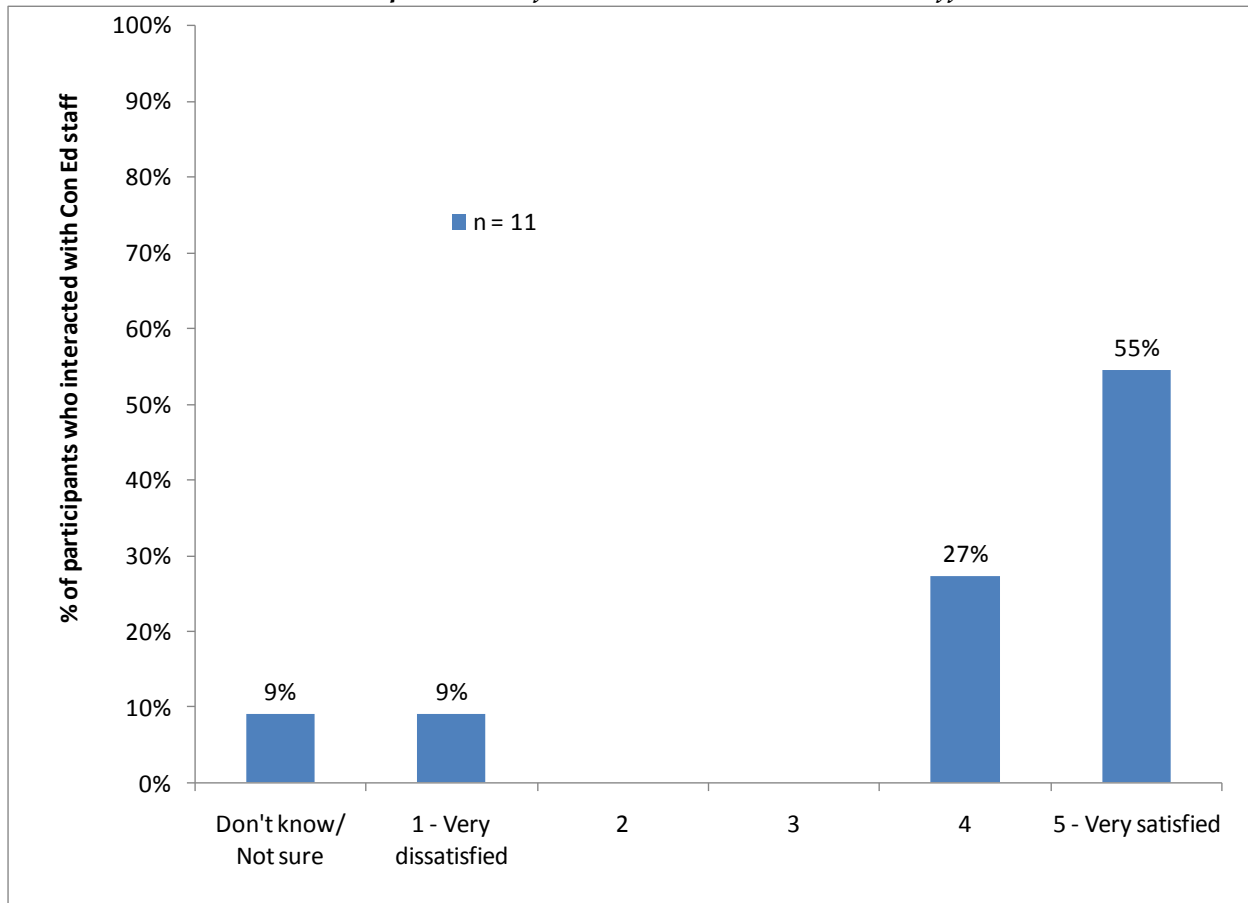
Figure 3-18:
Participant Satisfaction with AEA



The satisfaction levels of participants who had some interaction with Con Edison program staff was also good with 82 percent of these providing satisfaction ratings of “satisfied” or “very satisfied,” as shown in Figure 3-19. The average satisfaction level was 4.2. One respondent

indicated he was “very dissatisfied” and when he was asked why he was less than satisfied, he replied: “What Con Ed staff? They never called back.”

Figure 3-19:
Participant Satisfaction with Con Edison Staff



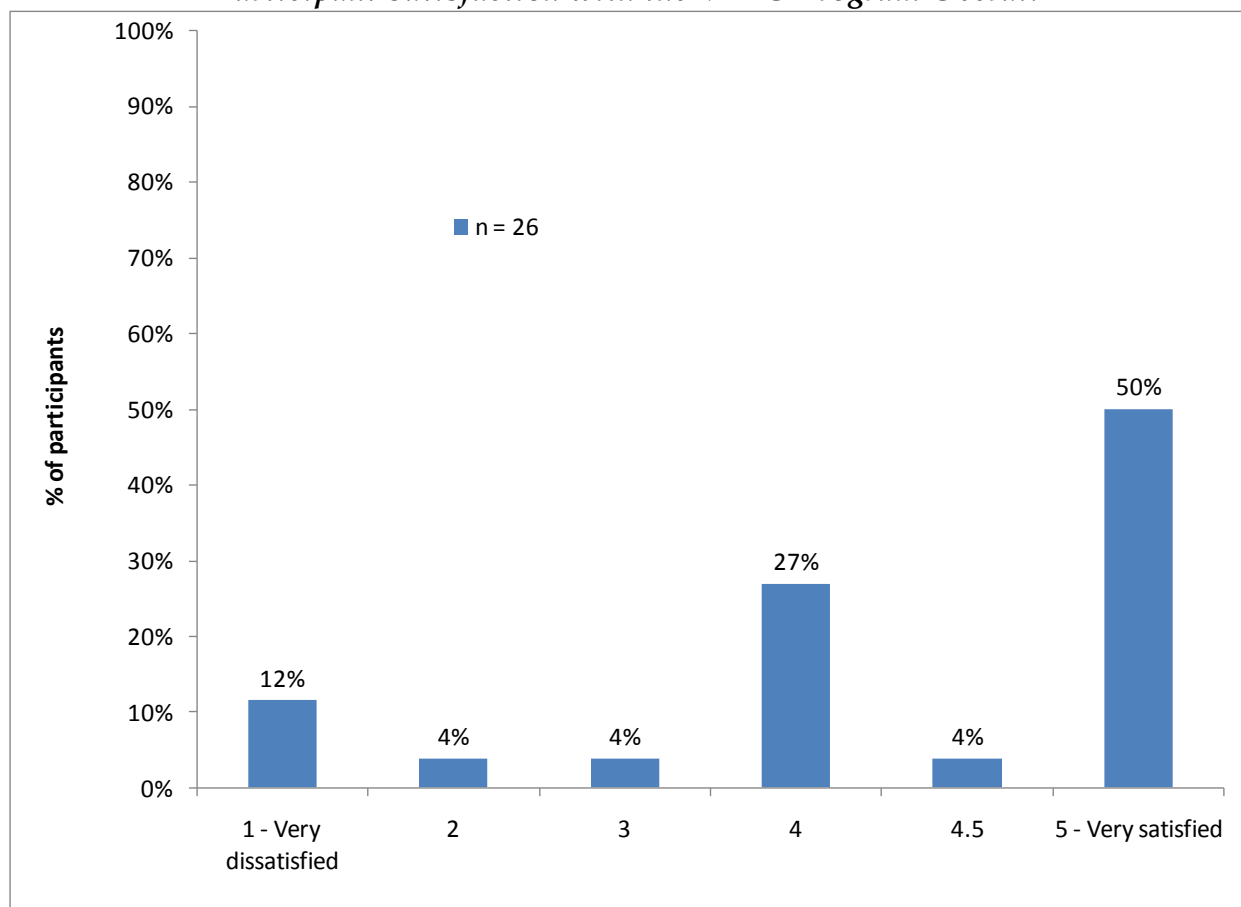
We asked the participants to also provide their satisfaction rating for the MFEG program as a whole. Eighty-one percent of the responding participants reported being “very satisfied” or satisfied with the program overall (Figure 3-20). Overall satisfaction averaged 4.1. Reasons for dissatisfaction with the program overall included:

- “Con Ed does not require very sophisticated audits. The audits are contractor-based. I was relying on professional advisors- I don't know how successful the program will be if it is just contractor based.”

- “The program just completely failed us with their non-response. I do want to emphasize though, that I think [IMPLEMENTATION CONTRACTOR X] is a great organization. I just really do think that it was the auditors here that were no good.”
- “I was just very disappointed I could [not] make participating in the programs work out. I finally just gave up.”
- “I am very unhappy with this program and with Con Ed. I don't know how I could spend that much money on improvements and not receive any rebates.”
- “The audit didn't find enough.”
- “The program needs to provide better recommendations of quality contractors!”³¹
- “They could call me back.”

³¹ In responding to this comment, the Con Edison MFEG program manager noted that the program does not recommend any particular contractors, but instead directs customers to a list of participating contractors who have received training/orientation from AEA.

Figure 3-20:
Participant Satisfaction with the MFEG Program Overall



4 CONCLUSIONS AND RECOMMENDATIONS

This section presents the key conclusions and recommendations from the findings and analyses presented throughout the report. These conclusions and recommendations are organized around key research areas. Some of these recommendations require additional on-going program expenditures. Con Edison must identify which of these costs are possible while maintaining a cost effective program.

4.1.1 PROGRAM PLANNING AND DESIGN

The MFEG program has faced a number of significant barriers to gaining greater energy efficiency penetration in the multifamily market. Some of these are market barriers which are naturally inherent to the multifamily sector. Other barriers are due to problems with the program's original design where key assumptions about likely sources of program energy savings or the ratio between program rebates and the incremental costs of energy-efficient measures were overly optimistic. The following is a summary of these barriers with more detailed descriptions in the main report.

- *“Natural” multifamily market barriers:* These barriers include the classic “split incentive” barrier where the landlord controls the energy equipment purchase decisions but does not pay the tenant energy bills, complex decision-making structures, dispersed property holdings, and language/ethnic barriers. In addition to these multifamily-specific barriers, more generic market barriers such as “lack of capital” also impact this market sector.
- *Program design barriers:* These barriers include:
 - *Some of the initial assumptions of energy savings opportunities for the program were wrong:*
 - *Shell measures:* The original program design had assumed that a large percentage of MFEG program energy savings would come from building shell measures. Yet both Con Edison staff and the program implementers noted that some of the characteristics of the New York City multifamily building stock such as masonry walls and flat roofs significantly limited the

opportunities for adding insulation. In its May 2012 petition, Con Edison also claimed that most of these shell measures were not cost effective.³²

- *Refrigerators:* Initially the replacement of inefficient refrigerators with ENERGY STAR units was also planned to be a major component of the program (the program was initially called the “Refrigerator Replacement Plus Program.”) Yet program implementers subsequently discovered that due to New York requirements for minimum refrigerator efficiency standards that increased the “baseline” efficiency for this measure, the number of program-eligible refrigerators was much smaller than originally thought.
- *The projections of measure-specific energy savings for the program preceded the availability of key information needed to develop TRC screening tools:* The MFEG program’s implementation plan projected which types of energy-efficient measures would produce energy savings for the program. However, the Con Edison program staff claimed that these projections of measure-specific savings for the program were made before they had key information that was needed for the development of their TRC screening tools. The possession of this information is now allowing the Con Edison staff to recommend ways to redesign the MFEG program to make it more cost effective. This key information which was not available when the program was first designed included the development of the New York Technical Reference Manual (TRM) which provides instructions on energy savings calculations, the issuing of NY DPS decisions that defined/clarified key inputs for Total Resource Cost (TRC) calculations such as LRAC and administrative costs calculations, and data from actual projects which allowed the MFEG program staff to determine which measures were found to be cost effective by passing the TRC test.
- *The initial program assumptions of what proportion of the measure costs would be covered by the program incentives were too high.* The MFEG program implementation plan indicated that the program incentives would either cover 70 percent of the measure costs or 70 percent of the incremental costs of a wide range of energy-efficient

³² In the petition Con Edison wrote: “Cost effective implementation of most measures in this [weatherization] design bucket proved prohibitive. Roof/door/pipe insulation can be implemented cost effectively, but acquired savings only contributed to 5% of current gas program.”

measures. However, when the Con Edison program manager calculated the dollar amounts and compared these to actual incremental costs for New York City the rebate coverage was much much lower than this.

- *Changes in program rules have created some difficulties in implementation:* There are a couple of instances mentioned in the body of the report where changes in program rules caused difficulties for the marketing and outreach efforts of the program.
- *Program incentives have been too low to compete with ARRA weatherization incentives:* Low incentive levels are an aspect of program design that is difficult to correct since incentive levels are usually defined and constrained by program benefit/cost screening assumptions. Yet the fact remains that the availability of federal stimulus funding complicated delivery of the MFEG program. According to the MFEG program manager, these weatherization incentive dollars were substantially higher than incentives that the MFEG program could offer. This forced the MFEG program in some instances to try to “piggy back” on the outreach efforts of the weatherization programs.

Recommendations for Program Planning and Design

- *The evaluators support Con Edison’s current efforts to redesign the MFEG program to align the program’s energy savings goals with current market realities.* As noted above, in May 2012 Con Edison filed a petition to have the MFEG program’s 2012-2015 energy savings goals revised downward along with a proposal for a new program design. We support this petition because as detailed in this report (and the petition), many of the original energy savings estimates and measure specifications for this program were not made with all necessary market and regulatory information.
- *Investigate whether adding a financing option would address the reported barrier of lack of capital among customers.* For both participating and nonparticipating multifamily property managers/owners, the most-cited barriers to the implementation of energy-efficient measures were “lack of capital” or cost barriers. NYSERDA’s Multifamily Partnership Program (MPP) has a financing option that can cover up to 25 percent of project costs and the MFEG program should consider offering a similar option. As of June 2012 the MPP program had only one participant taking advantage of it. The NYSERDA program manager said that this low participation rate was likely due to a combination of lack of marketing/promotion of this financing option as well as a lack of need/interest. It should be noted, however, that the NYSERDA program handles, on average, larger multifamily properties than the MFEG program does. It is possible that the companies that own these larger properties have easier access to alternative

financing than the multifamily property managers/owners who participate in the MFEG program do.

- *There should be more cooperation/coordination between the Con Edison and NYSERDA multifamily programs:* Although the MFEG program is limited to multifamily buildings with 5 to 75 units, within this size range the properties can participate in either the MFEG or NYSERDA MPP program. Our interviews with the program managers of both these programs revealed that coordination/communications between the two programs was very ad hoc, limited and “unsystematic.” To insure multifamily property managers/owners are not “double-dipping” in these two programs with the same building, the programs seemed to rely either on the self-reports of the property-management companies that they are not doing this or on the self-policing efforts of installation contractors who work with both programs.³³ When asked whether they share/compare their program tracking data, both program managers said they do not. The NYSERDA program manager said that they were waiting for a statewide database that the DPS was developing. The Con Edison program manager claimed that when they find leads for buildings greater than 75 units, they share these leads with NYSERDA.

4.1.2 INFRASTRUCTURE DEVELOPMENT

The evaluation team did a thorough review of the MFEG program tracking database. The findings from this review are discussed in the main body of the report. Our overall conclusion is that AEA’s tracking system for the MFEG program fails to provide an accessible source of information about program activities that is required for evaluation as well as program management purposes. As noted in the subsequent recommendations subsection, we are recommending a complete overhaul of this database.

Recommendations for Infrastructure Development

The evaluation team recommends that the current MFEG program tracking system be completely overhauled. We recommend moving all data into a single relational database which allows for simple reporting and easy data lookup. The ability to link basic customer information to program activity by the customer is an essential requirement. A simple outline for a relational database that would better suit program and evaluation needs would at the minimum include the following tables and fields:

³³ It should be noted that a given property management company can participate in both programs via different buildings.

- Accounts – AccountID (KEY),, Account Name, Lead Source, Outreach Status, mailing address
- Account Contacts – AccountID, Account Name, ContactID (KEY),, Salutation, First Name, Last Name, Title, Work Phone, Cell Phone, Email, Mailing Address, Mailing City, Mailing ZIP, Mailing State
- Project Pipeline – AccountID Account Name, PropertyID (KEY),, Property Name, Property Address, Property City, Property ZIP, Property State, WAP coordination, WAP Agency, Dwelling Units, Milestones (Y/N), Milestones (dates)
- Spaces/Units - AccountID, Account Name, PropertyID, Property Name, Space/Unit ID (KEY), Space/Unit Address
- Measures – AccountID, Account Name, PropertyID, Property Name, Space/Unit ID, Space/Unit Address, Measure ID (KEY), Measure Type ID, Measure Type, Measure Description, Measure Quantity, Measure kWh, Measure kW, Measure Therms
- Measure Calculations - Measure Type ID (KEY), Measure Type, Measure Description, Savings per Unit.

4.1.3 MARKETING AND CUSTOMER ACQUISITION

Some of high-level findings and recommendations from our review of the MFEG program marketing efforts include:

- *The more generic “Green Team” advertising is benefitting the multifamily program even when this messaging is not specific to the MFEG program or the multifamily sector in general. Our interviews with the program implementers and our observations during the ride-alongs with the AEA staff indicated that the name recognition of the Green Team brand is helping to facilitate program entry into some of the apartment units for direct installs.*
- *However in terms of online information, specific multifamily program messaging may be getting lost within the “Green Team” energy efficiency web landing pages.*
- *Staff at both AEA and their marketing subcontractor Haggman reported having a good professional working relationship with Con Edison team members. They rated the marketing communication as frequent and informal, and the approval process as “excellent.”*

- *There were some initial problems with follow-up on program leads, but these problems have been resolved.* When the MFEG program was first being launched, Con Edison program staff reported some “hiccups” with the assignment of these program leads among AEA account managers. The Con Edison staff discovered that some of the program leads that they had turned over to AEA were not being contacted in a timely manner. However, Con Edison staff said that they brought this problem to the attention of AEA and it was addressed.
- *Con Edison has refined its in-person outreach efforts to be more targeted at multifamily-specific events.* Interviews with Con Edison staff indicated that over time they have refined their approach to conferences and other in-person events. Early in the program implementation they attended a wide variety of energy efficiency conferences and events including some that did not have a particular focus on the multifamily sector. They were generally disappointed with the results of these efforts in recruiting new multifamily property managers/owners into the MFEG program. Their new approach is to spend more time at the very-targeted multifamily-focused events and spending less time at more generic energy-efficiency events. They are also trying to become more proactive in engaging multifamily property managers/owners in conversation at these events (vs. standing behind a table and handing out flyers, etc.).

Recommendations for Marketing and Customer Acquisition

- *The program should not reduce its in-person outreach activities too much, since there is some evidence that these have been effective.* As noted above, Con Edison is trying to reduce the number of in-person events it attends (e.g., focusing on more multifamily-targeted events vs. generic energy efficiency events) due to the staff’s perception that past in-person outreach efforts have been disappointing. Yet there was evidence from the interviews with participating and nonparticipating multifamily property managers/owner that in-person outreach efforts were the most successful. In the in-depth interviews we asked both the program-aware participants and nonparticipants how they became aware of the MFEG program. The most-cited sources of information among the program-aware participants were word-of-mouth, organizations, and trainings. The most-cited sources of program information among program-aware nonparticipants were the Con Edison website, mail/email, and TV/radio/print advertisements. This suggests that while in-person, face-to-face forms of program outreach are certainly more expensive, they may have a better chance of success than some of the mass advertising approaches.

- *Current efforts to cross-promote other Con Edison programs through the MFEG program could be improved.* The program materials that we reviewed did not seem to be cross-promoting other Con Edison programs. In addition, we did not observe any cross promotion of these programs during the ride-alongs with AEA field staff that we conducted.
- *The program should try to make greater use of email to communicate program information:* Email was the most-preferred means of obtaining MFEG program information for both participating and nonparticipating multifamily property managers/owners.
- *AEA needs to improve how it tracks the source of sales leads:* DNV KEMA staff noted in its review of the program's Salesforce database that the program was not collecting adequate information about how a customer heard about the program. Altogether nearly half (45%) of the listed Lead Sources in the Accounts data table did not indicate how the prospect heard about the program. For example, for nearly 30 percent of the prospects in the database, the Lead Source was listed as a toll-free number (e.g., "MFEEP 1-800 Number" or "MFEEP 1-800 Call Center" or "Con Edison 1-800 Number"). Such entries only indicate how the prospects got in touch with the program and they do not indicate how the prospect heard about the program (e.g. website, flyer, print ad, etc.). In addition another 16 percent of the accounts had a Lead Source entry of "Unknown" or an unspecified "Other."
- *The MFEG program should look to expand its efforts to partner with weatherization agencies now that the ARRA funds have been eliminated.* The in-depth interviews revealed that both the Con Edison program staff and the AEA staff had extensive experience working with New York and federal weatherization programs before become involved in the MFEG program. In addition, as discussed later in this report, the MFEG program has partnered with weatherization program in the past. That being said, the elimination of the ARRA funding will likely make the weatherization programs more interested in partnering with programs such as MFEG than they have been in the past. Our interview with the manager of the NYSERDA Multifamily Partnership Program revealed that NYSERDA has recently stepped up their outreach efforts to these weatherization stakeholders for this very reason. We recommend that the MFEG program does the same, if it has not already.

4.1.4 PROGRAM DELIVERY

Some high-level findings and recommendations from our review of the MFEG program delivery include:

- *Through the end of 2011 the MFEG program is well behind its program savings goals:* By the end of 2011 the program had achieved 39 percent of its original Megawatt Hour (MWh) and 26 percent of its dekatherm (Dth) savings goals for the 2009-2011 period.³⁴
- *There was high dissatisfaction with the energy survey among nonparticipants and some dissatisfaction among program participants.* There was dissatisfaction among both participating and nonparticipating multifamily property managers/owners about the energy surveys with the most common complaint being that the surveys were not thorough enough or did not provide them with new information. In reviewing the draft report and in July 2012 discussions with the evaluators, the MFEG program manager noted that Con Edison does not advertise the energy survey as an audit in its program materials. He also asserted that the energy survey was never intended to be a “complete audit” but was designed to identify eligible energy-efficient measures and their associated energy savings. Both Edison and the evaluators agreed that the fact that NYSERDA was offering a more complete audit to many of these multifamily property managers through its MPP program may have confused them and influenced their expectations as to the scope of the MFEG program’s energy surveys.
- *The roles of the Con Edison MFEG program staff has evolved over time.* The Con Edison MFEG program staff recently reported that they now spend less time on day-to-day program implementation issues and more time on program planning, program evaluation, savings verification, program re-design, and regulatory compliance issues.
- *The program is achieving more energy savings from the dwelling unit installations than originally expected.* Interviews with the Con Edison program staff indicated that they are achieving a higher percentage of energy savings from the direct installs in the tenant units (vs. the common area measures) than they were expecting.

Recommendations for Program Delivery

- *Con Edison program staff should make sure that program implementers are aware of these energy savings assumptions and policies concerning CFLs:* The evaluator who accompanied the energy survey team was interested to observe that the direct installers were replacing existing CFLs with the program-rebated CFLs. When they did this, the direct installers explained to the

³⁴ The achieved energy savings referenced here are ex ante savings estimates – savings estimates which have not yet been subject to further adjustment by program evaluators.

tenants that the new CFLs from the MFEG program provided a higher quality light. Our evaluation team asked Con Edison staff during a follow-up interview if replacing existing CFLs with new CFLs was program policy. The Con Edison staff said that program electric savings estimates assume that CFL are replacing incandescent bulbs and that replacing CFLs with CFLs was not program policy.

- *The MFEG program would benefit from doing more management of multifamily property manager/owner expectations about what these energy surveys will entail.* Interviews with Con Edison staff revealed that they never envisioned the energy surveys to be comprehensive audits but more as tools to “get a foot in the door” with multifamily property managers/owners. Yet our in-depth interviews with the participating and nonparticipating property managers indicated that many had different expectations about what the energy surveys would entail. This suggests that both Con Edison and AEA could do more to try to manage the expectations of the multifamily property managers/owners upfront about the level of rigor and comprehensiveness of the free energy surveys.
- *Consider offering multifamily property managers/owners a choice between the free energy survey (with the limitations of this energy survey properly explained) and a more comprehensive energy audit for which the property manager/owner would either share costs or commit to EE implementation:* The NYSERDA program does offer multifamily property managers/owners a more comprehensive audit (which may have influenced the expectations of some of the multifamily property managers participating in the MFEG program). One possible enhancement to the MFEG program would be to give the multifamily property managers a choice between the free energy survey (with the limitations of this energy survey properly explained) and a more comprehensive energy audit similar to the NYSERDA audit in which the property manager would have to either contribute to the cost or commit to the implementation of some energy-efficient measures. Even if most multifamily property managers still selected the free energy survey option, being presented with this option will likely help manage their expectations about what they’re getting with the free energy survey.
- *The program should strive for better communications with building supervisors and other onsite representatives of the property managers/owners.* Although admittedly a very small sample size, the member of our evaluation team who accompanied the AEA field staff observed instances where the building supervisor appeared confused about what the program was planning to do in his/her buildings and why. This was likely due to inadequate communication between the representative of the property management company who signed up for the program and the building supervisor. In addition there are other benefits in try to improve the communications/relationship with the building supervisor. The AEA

staff reported that when they can get the building supervisor to accompany them on their rounds, this greatly increases the program access to the tenant units. Ways to improve the communications with the building supervisor might include:

- *Give energy surveyors the name and contact of the person who set up the appointment, just in case there is a problem at the site;*
- *Explain the purpose of the program to the building supervisor:* The member of the consulting team who accompanied the AEA field staff noticed there was a difference in how the energy survey/direct install was received depending on how much communication the AEA team did upfront about the purpose of the program. When the team made the effort to explain to the building supervisor upfront what the purpose of the program was, the energy survey/direct install seemed to go more smoothly than when this did not happen.
- *Proactively seek questions from the building supervisor:* The evaluator who observed the program energy surveys and direct installs thought it would have been helpful to cultivate the relationship with building supervisors if the AEA team had routinely asked simple questions of the building supervisors such as: “Do you have any questions for us?,” “Is there anything else we can do?,” or “Is there any piece of equipment in your building that you think is not operating in the most energy-efficient manner?”
- *Compile a list of FAQs from building supervisors, develop responses to these FAQs, and then distribute this document to the AEA field staff:* The evaluator who observed the program energy surveys and direct installs noted that the supervisor asked questions such as: “How do we include our [the property management company’s] engineer in the process? What is the name of the auditor that I will speak with after the report is done? When will the building be flyered for the direct installs?” that the AEA team did not know the answers to. Since these questions seem to be inquiries that many building supervisors might ask, we suggest that the AEA field staff compile a list of these frequently-asked questions, develop responses to these frequently-asked-questions, and then distribute this document to the audit and direct-install teams. Obviously the responses to some questions such as: ‘When will the building be flyered for the direct installs?’ will have to be customized to the project.

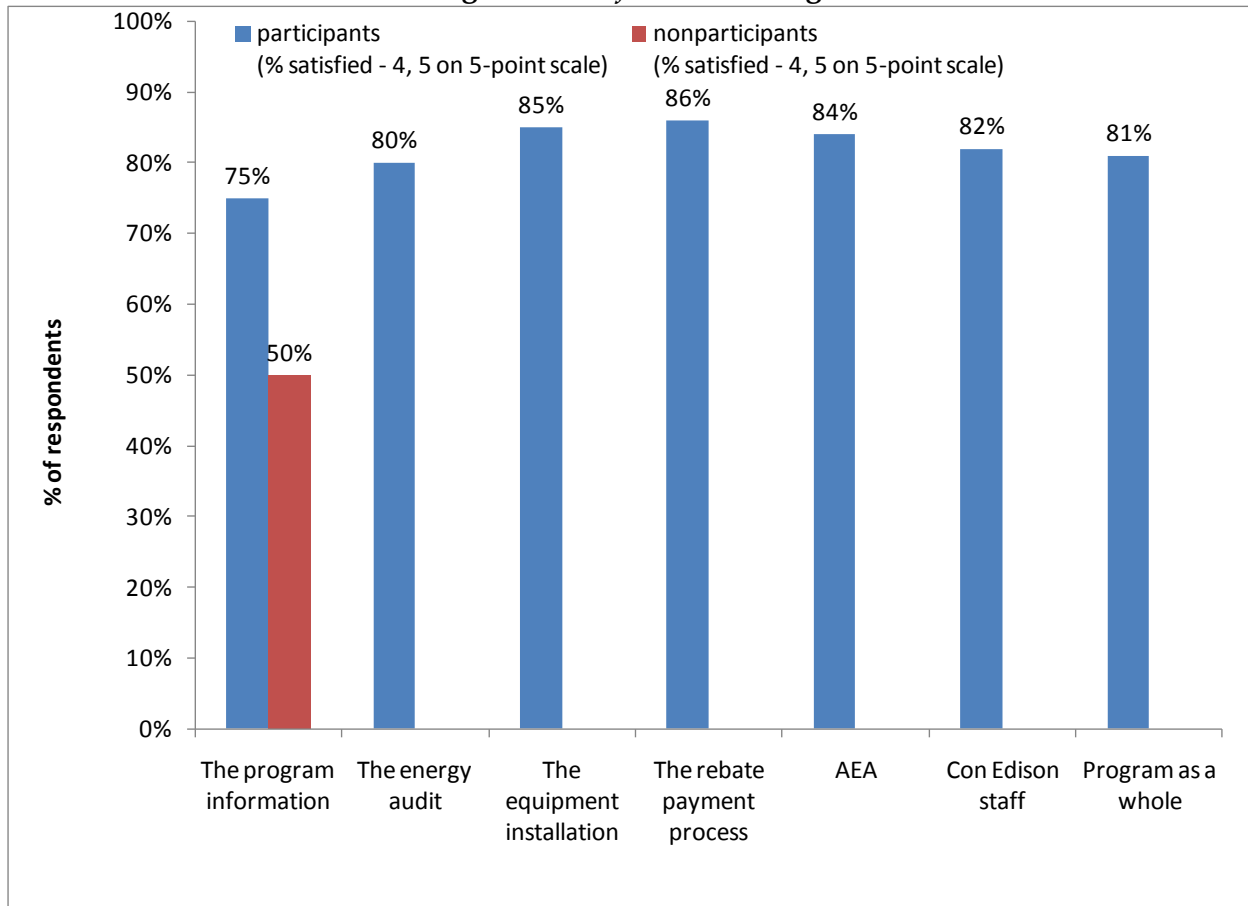
4.1.5 SATISFACTION WITH THE PROGRAM

We asked the program participants for their level of satisfaction with many different aspects of the program. We also asked the nonparticipants about their satisfaction with the program information they received/recalled.³⁵ All the respondents were asked to use a five-point satisfaction scale where five indicated “very satisfied” and one indicated “very dissatisfied.” Figure 4-1 shows that the participants gave satisfaction ratings in the low- to mid- eighty percent ratings for most of the program attributes.

Based on our experience doing process evaluations with many energy efficiency programs, we consider these satisfaction ratings to be good with the exception of those for the program information. As discussed in the body of the report, most of the participant and nonparticipant dissatisfaction with the program information was due to their disappointment with the energy survey not being more thorough. Our recommendations for addressing these concerns are discussed in the previous subsection. In addition to these responses, one respondent claimed that the website was too technical to understand, another was disappointed that the furnace they installed did not turn out to be program qualifying, a third was disappointed to learn that Con Edison was not paying the full cost of the recommended measures, a fourth had trouble operating the setback thermostats, and a fifth simply stated that “the information just didn't spell things out.”

³⁵ We also asked the nonparticipants who recalled receiving an audit from the program the open-ended question: “What did you think of the audit?” As discussed in the body of the report, we categorized 70 percent of their open-ended responses to this question as negative.

Figure 4-1
Program Satisfaction Ratings



4.1.6 INTERACTION WITH OTHER PROGRAMS

The following are some findings and recommendations from our evaluation concerning the interaction of the MFEG program with other programs.

- *There should be more cooperation/coordination between the Con Edison and NYSERDA multifamily programs:* Although the MFEG program is limited to multifamily buildings with 5 to 75 units, within this size range the properties can participate in either the MFEG or NYSERDA MPP program. Our interviews with the program managers of both these programs revealed that coordination/communications between the two programs was very ad hoc, limited and “unsystematic.” To insure multifamily property managers/owners are not “double-dipping” in these two programs with the same building, the programs seemed to rely either on the self-reports of the property-management companies that they are not doing this or on the self-policing efforts of installation contractors who work with both programs.³⁶ When asked whether they share/compare their program tracking data, both program managers said they

³⁶ It should be noted that a given property management company can participate in both programs via different buildings.

do not. One of them said that they were waiting for a statewide database that the DPS was developing.

- *The MFEG program should look to expand its efforts to partner with weatherization agencies now that the ARRA funds have been eliminated.* The in-depth interviews revealed that both the Con Edison program staff and the AEA staff had extensive experience working with New York and federal weatherization programs before become involved in the MFEG program. In addition, the MFEG program has partnered with weatherization program in the past. That being said, the elimination of the ARRA funding will likely make the weatherization programs more interested in partnering with programs such as MFEG than they have been in the past. Our interview with the manager of the NYSERDA Multifamily Partnership Program revealed that NYSERDA has recently stepped up their outreach efforts to these weatherization stakeholders for this very reason. We recommend that the MFEG program does the same, if it has not already.

Appendix A. PARTICIPANT AND NONPARTICIPANT INTERVIEW GUIDES

Con Edison Multifamily Electric and Gas (MFEG) Program – Interview Guide for Participating Multifamily Property Managers/Owners

Purpose: This is the interview guide for multifamily property managers/owners who have participated in the MFEG program. As explained in the MFEG sampling plan, we plan to complete interviews with 30 of these participating property managers. The interview guide will have the following research objectives:

Interview Research Objectives:

- 1) Understanding the types of companies (e.g., size, management structure, capital improvement processes etc.) and properties (e.g., size, heating/cooling equipment, etc.) that are participating in the MFEG program
- 2) Learning about their sources of program awareness and knowledge, the adequacy of program information, and their reasons for joining the program
- 3) Learning about their experiences with the free audits offered by the program
- 4) Understanding more about the energy efficiency projects that were implemented through the program including the source of project ideas, who installed the equipment, whether they had installed similar equipment in other properties, etc.
- 5) Gathering information about what barriers they face in implementing energy efficiency projects
- 6) Gauging their satisfaction with the MFEG program and all its component processes.

Target Respondents: Participating Multifamily Property Managers/Owners

[INSTRUCTIONS FOR INTERVIEWERS:

- 1) **BEFORE BEGINNING THE INTERVIEW, FILL IN THE INFORMATION IN THE TABLE BELOW AND FAMILIARIZE YOURSELF WITH IT]**
- 2) **AT THE START OF SOME QUESTIONS THERE WILL BE A CONDITIONAL “IF” STATEMENT IN CAPITAL LETTERS WITHIN A BRACKET. THESE QUESTIONS SHOULD BE ONLY ASKED IF THE CONDITIONAL STATEMENT IS TRUE. OTHERWISE THE INTERVIEWER SHOULD SKIP TO THE NEXT QUESTION AT THE SAME INDENTATION LEVEL.**
- 3) **TO MAKE THE SURVEYING EASIER, ONCE YOU HAVE PRE-CODED THE CUSTOMER AND PROJECT INFORMATION, IT MIGHT BE HELPFUL TO IDENTIFY WHICH QUESTIONS YOU WILL NEED TO ASK BASED ON THIS PRE-CODED INFORMATION. FOR EXAMPLE IF THERE ARE COMMON AREA MEASURES YOU MIGHT MAKE A NOTE THAT Q25 AND Q26 MUST BE ASKED, ETC.**
- 4) **FOR THE RESPONSES “YES,” “NO”, “DON’T KNOW” AND “REFUSED”, YOU SHOULD WRITE THESE OUT VERBATIM EXCEPT DON’T KNOW CAN BE ABBREVIATED AS “DK.”**

- 5) **TRY TO ADD VALUE ON THE OPEN-ENDS:** SOME OF THE QUESTIONS ARE CATI-LIKE AND DON'T REQUIRE MUCH ON YOUR PART. SO TO ADD VALUE, TRY TO GET RICHER RESPONSES ON SOME OF THE OPEN-ENDED QUESTIONS. FEEL FREE TO PROBE DEEPER BASED ON PROPERTY MANAGER RESPONSES.

Information to be Pre-Coded by Surveyor

Company Name	
Contact Name	
Installation Address	
Installation Date	
Record of Audit (Y/N)?	
<u>Common Area Measures [FOR FIRST BUILDING ON CALLING LIST IF THEY HAD MULTIPLE BUILDINGS]</u>	
Installed EE Measure #1	
Installed EE Measure #2	
Installed EE Measure #3	
<u>Tenant Unit Measures [FOR FIRST BUILDING ON CALLING LIST IF THEY HAD MULTIPLE BUILDINGS]</u>	
Installed EE Measure #1	
Installed EE Measure #2	
Installed EE Measure #3	

Finding the Decision-maker and Introduction

- 1) Hello, may I please speak with [USE CONTACT NAME IF AVAILABLE (WE HAVE THEM FOR MOST PARTICIPATING COMPANIES)]?
- 2) [IF NO CONTACT NAME AVAILABLE] I'd like to speak with the person responsible for managing property improvements.
- 3) [ONCE APPROPRIATE CONTACT IS ON THE PHONE] Hello I am _____ from _____. I am calling on behalf of Con Edison. According to our records, sometime in <INSTALLATION DATE> your organization had some energy efficiency improvements made at your property at <INSTALLATION ADDRESS>. These improvements were partially paid for by rebates from Con Edison's Multifamily Electric and Gas Program. Con Edison is trying to improve this program, and I was hoping you could help us out by answering a few questions.
- 4) [IF CONTACT AGREES TO INTERVIEW] Our information indicates that you had energy efficiency improvements made at your property at <INSTALLATION ADDRESS> including: [READ INSTALLED ENERGY EFFICIENCY MEASURES FROM TABLE ABOVE]. Are you familiar with these energy efficiency improvements? [IF RESPONDENT IS AT LEAST SOMEWHAT FAMILIAR WITH ENERGY EFFICIENCY MEASURES, CONTINUE INTERVIEW. OTHERWISE OBTAIN ALTERNATIVE CONTACT NAME]

Background Information

First I would like to get some background information about you, the property at <INSTALLATION ADDRESS>, and your company.

- 5) What is your position or job title at <INSTALLATION ADDRESS> or with the company that manages this property?
- 6) About many years have you been in the business of owning, managing, or maintaining multifamily properties?
- 7) About how many apartment units are located in the building or buildings at <INSTALLATION ADDRESS>? [RECORD # UNITS]
- 8) Are the tenants at <INSTALLATION ADDRESS> responsible for paying their own utility bills, or are utilities included in the rent?
- 9) Is the electricity for the tenant units in the building at <INSTALLATION ADDRESS> individually metered or master-metered?
- 10) Is the gas for the tenant units in this building individually metered or master-metered?
- 11) Is the water for the tenant units in this building individually metered or master-metered?
- 12) Do you or your firm own the property at <INSTALLATION ADDRESS>, do you manage it, or do you both own and manage it? [ACCEPT ONLY ONE ANSWER]
- 13) About how many multifamily properties in the greater New York City and Westchester County areas does your company own or manage?

Participation Information, Drivers

Now I would like to ask you some questions about the energy efficiency improvements that were made at <INSTALLATION ADDRESS>.

- 14) Before now were you aware that these improvements were partially paid by rebates from Con Edison's Multifamily Electric and Gas Program?
- 15) In addition to paying rebates for energy-efficient equipment, this program also offers free energy audits of multifamily buildings. Did your building at <INSTALLATION ADDRESS> receive one of these free energy audits? [NOTE: IF PROGRAM TRACKING INFORMATION IS AVAILABLE THAT SHOWS AN AUDIT WAS PERFORMED, CHANGE SECOND SENTENCE IN QUESTION TO "ACCORDING TO OUR RECORDS

YOUR BUILDING DID RECEIVE ONE OF THESE FREE ENERGY AUDITS, IS THIS CORRECT?]

16) How did you become aware of this Con Edison Multifamily Electric and Gas Program?

17) What motivated you to become involved with this program?

18) Did you receive any information from either Con Edison or their main contractor the Association for Affordable Energy (AEA) about how this program works? [IF NO GO TO 18D]

- a. [IF YES] What kind of information did you receive? [PROBE FOR SOURCE AND TYPE OF INFORMATION (E.G., BROCHURE)]
- b. [IF YES] After receiving this information, were there any aspects of this program that you did not understand or wanted to know more about?
 - i. [IF YES] What aspects of the program?
- c. [IF YES] Using a satisfaction scale where 5 equals “very satisfied” and 1 equals “very dissatisfied”, how satisfied have you been with the information you received in terms of explaining how the program worked?
 - i. [IF RESPONSE TO Q18C = 1-3] Why did you give that satisfaction rating for the program information?

18D) If Con Edison wanted to provide you information about this program in the future, what would be the best way to do this?

19) Are you aware of any other programs in New York that promote energy efficiency in multifamily buildings? [IF NO, SKIP TO Q20]

- a. [IF YES] Which other programs are you aware of?
- b. [IF YES] Have you participated in any of those programs?
 - i. [IF YES] Which programs have you participated in?

EE Standard Practices, Project Information, Implementation Barriers

Now I want to ask you a few questions about your standard practices concerning the purchase of energy-using equipment such as boilers, water heaters, lighting, appliances, etc.

20) When you are getting energy-using equipment installed in your building, where do you get your information about what type of equipment to choose?

21) What is your process for making capital improvements in the buildings you own or manage?

[IF NOT ALREADY MENTIONED, PROBE FOR:

- a. WHO THE DECISIONMAKERS ARE
- b. CRITERIA FOR PRIORITIZING PROJECTS
- c. WHETHER ENERGY EFFICIENCY IS CONSIDERED AND IF SO, HOW OR, IF NOT, WHY NOT.]

22) [IF THEY INDICATED IN Q15 THAT THEY RECEIVED THE FREE ENERGY AUDIT]
You indicated earlier that your property received a free energy audit from the Con Edison program. Did this audit show you any energy efficiency opportunities in your building that you were not already aware of?

- a. [IF YES] Which opportunities?

23) [IF THEY INDICATED IN Q15 THAT THEY RECEIVED THE FREE ENERGY AUDIT]
Using a satisfaction scale where 5 equals "very satisfied" and 1 equals "very dissatisfied", how satisfied were you with the free energy audit?

- a. [IF RESPONSE TO Q23 = 1-3] Why did you give that satisfaction rating for the energy audit?

24) The information we have indicates that you had the following energy-efficient measures installed in your common areas [READ INSTALLED COMMON AREA ENERGY EFFICIENCY MEASURES IF THEY HAD SOME (FOR THE FIRST BUILDING ON THE LIST IF THEY HAD MULTIPLE BUILDINGS)] and the following measures installed in your tenant units [READ INSTALLED TENANT UNIT ENERGY EFFICIENCY MEASURES IF THEY HAD SOME]. Does this sound correct?

- a. [IF NOT] Make note of any discrepancies.

25) [IF THEY HAD COMMON AREA IMPROVEMENTS] Who came up with the ideas for these energy efficiency improvements in your common areas such as [READ SAMPLE MEASURES FROM TABLE YOU FILLED IN ABOVE]?

- 26) [IF THEY HAD TENANT UNIT IMPROVEMENTS] Who came up with the ideas for these energy efficiency improvements in your tenant units such as [READ SAMPLE MEASURES FROM TABLE YOU FILLED IN ABOVE]?
- 27) [IF THEY INDICATED IN Q13 THAT THEIR COMPANY MANAGES/OWNS MULTIPLE PROPERTIES] Before participating in this Con Edison program, have you installed similar energy efficiency measures in any of your other multifamily properties? [IF NO GO TO Q28]
- a. [IF YES] Which energy efficiency measures have you installed in your other properties?
 - b. [IF YES] Why hadn't you installed these energy efficiency measures at <INSTALLATION ADDRESS> yourself before becoming involved with the Con Edison program?
- 28) Was this equipment installed at <INSTALLATION ADDRESS> through the Con Edison program installed by an outside contractor, by employees of your own company, or by a combination of both? [IF THEY SAY OUTSIDE CONTRACTOR, PROBE FOR WHETHER IT WAS A CONTRACTOR PROVIDED BY THE PROGRAM OR A CONTRACTOR THEY FOUND ON THEIR OWN]
- a. [IF THEY SAID THE EQUIPMENT WAS INSTALLED WHOLLY OR PARTLY BY AN OUTSIDE CONTRACTOR] What was the name of this outside contractor?
- 29) How did the process of installing the energy efficiency measures go?
- 30) [IF NOT ALREADY MENTIONED] Did you encounter any challenges in getting this equipment installed? [IF NO SKIP TO Q33]
- a. [IF YES] What were these challenges?
- 31) [IF EQUIPMENT INSTALLATION CHALLENGES WERE IDENTIFIED] How were these challenges overcome?
- 32) [IF EQUIPMENT INSTALLATION CHALLENGES WERE IDENTIFIED] Was there anything the Con Edison Multifamily Electric and Gas program could have done to assist with the installation of the energy-efficient equipment?
- a. [IF YES] What could they have done?
- 33) [IF CONTRACTORS DID THE INSTALLATIONS AND THIS WAS NOT ALREADY MENTIONED] Did you have any issues or difficulties with the contractors who installed the equipment? [IF NO SKIP TO Q34]
- a. [IF YES] What were these?

- 34) [IF NOT ALREADY MENTIONED] Did you have any issues or difficulties – such as tenant complaints – after the energy-efficient equipment was installed?
- a. [IF YES] What were these?
 - b. [IF YES] What, if anything, was done to address these complaints?
- 35) Using a five-point satisfaction scale where five indicates “very satisfied” and one indicates “very dissatisfied”, how would you rate your satisfaction with the whole process of getting the energy-efficient equipment installed?
- a. [IF RESPONSE TO Q35 = 1-3] Why did you give that satisfaction rating for the installation process?
- 36) [IF THEY HAD BOTH COMMON AREA AND TENANT UNIT MEASURES INSTALLED] You had energy efficiency measures installed in both your building’s common areas and its tenant units. Would you give different satisfaction ratings for the installation process in the common areas vs. the tenant units?
- a. [IF YES] What would these different satisfaction ratings be?
 - b. Were both areas serviced (installed) by the same contractor?
- 37) [ASK ONLY IF THEY HAD MULTIPLE PARTICIPATING PROPERTIES] My previous questions concerned your property at <INSTALLATION ADDRESS>. According to our records you had multiple properties participating in the Con Edison program [CITE OTHER ADDRESSES IF YOU THINK IT WILL HELP TRIGGER THEIR MEMORY]. Were your program experiences with these other properties different in any notable way from your program experience with <INSTALLATION ADDRESS> that you just told me about?
- a. [IF YES] How were your program experiences different for these other properties? [TRY TO GET THEM IDENTIFY THE ADDRESSES WHERE THE DIFFERENT PROGRAM EXPERIENCES OCCURRED].

Future Energy Efficiency Opportunities, Barriers

- 38) [IF THEY GOT THE FREE ENERGY AUDIT] Did the free energy audit from the Con Edison program identify any energy efficiency opportunities at <INSTALLATION ADDRESS> that have not already been acted upon?
- a. [IF YES] Which opportunities are these?

39) Are you aware of any other energy efficiency opportunities at <INSTALLATION ADDRESS>, besides those already installed through the Con Edison program, which you have not acted upon? [IF THEY ANSWERED THE PREVIOUS QUESTION, SUBSTITUTE “besides those already identified by the free energy audit?”]

a. [IF YES] Which opportunities are these?

40) Why haven't you acted upon these remaining opportunities?

41) Do you have plans to act upon these remaining opportunities in the near future either through the Con Edison program or through another available program?

a. [IF NO] Why not?

42) [IF NOT ALREADY MENTIONED] In general, what factors make it challenging for your company to make energy efficiency improvements in its multifamily properties?

43) [IF THEY MENTIONED in Q8 THAT THEIR TENANTS PAY THEIR OWN UTILITY BILLS] You mentioned earlier that your tenants pay their own utility bills. Does this affect how you make decision about which energy-using equipment you purchase?

a. [IF YES] How so?

Program Satisfaction

We're almost done here. This is the last set of questions.

44) Did you have to fill out any paperwork to participate in this Con Edison program?

a. [IF YES] Was the paperwork reasonable in terms of length and level of detail?

45) [IF THEY DIDN'T RECALL RECEIVING THE REBATES (SAID “NO” TO Q14) SKIP TO Q48] Do you recall the approximate dollar amounts of the rebate payments you received from the Con Edison program for the energy-efficient equipment that was installed at <INSTALLATION ADDRESS>?

a. [IF YES] What were they?

b. [IF YES] Did you have any expectations about the dollar amounts of the rebates you would receive from the program?

1. [IF YES] How did the dollar amounts of the rebates you received compare to what you expected?

a. [IF REBATE DOLLAR AMOUNTS WERE DIFFERENT THAN WHAT WAS EXPECTED] Did the program explain how these rebate dollar amounts were calculated?

- 46) Do you recall how long after the installation of the energy-efficient equipment you received the rebate payments? [IF NO SKIP TO Q47]
- a. [IF YES] About how many weeks was it?
 - b. [IF YES] Did you have any expectations about the timing of these rebate payments?
 1. [IF YES] Was the period longer, shorter, or about the same as what you expected?
 - a. [IF THE TIMING OF INCENTIVE PAYMENT RECEIPT WAS DIFFERENT THAN WHAT WAS EXPECTED] Did the program provide any explanation about the timing of the rebate payments?
- 47) Using a five-point satisfaction scale where five indicates “very satisfied” and one indicates “very dissatisfied”, how would you rate your satisfaction with the program’s rebate payment process?
- a. [IF RESPONSE TO Q47 = 1-3] Why did you give that satisfaction rating for the rebate payment process?
- 48) While participating in this Con Edison program, did you have any interactions with the program’s main contractor -- the Association for Affordable Energy (AEA)? [IF YES, GO TO Q49. IF NO, GO TO Q50]
- 49) [IF THEY RECALLED AN INTERACTION WITH AEA] Using a five-point satisfaction scale where five indicates “very satisfied” and one indicates “very dissatisfied”, how would you rate your satisfaction with the contractor AEA?
- a. [IF RESPONSE TO Q49 = 1-3] Why did you give that satisfaction rating for your interactions with AEA?
- 50) While participating in this Con Edison program, did you have any interactions with Con Edison’s own program staff? [NOTE: THE CON EDISON MFEG PROGRAM ONLY HAS TWO STAFFPERSONS GREG ELCOCK AND PHIL MADNICK, SO MENTION THESE NAMES IF IT CAN HELP THE INTERVIEWEE DISTINGUISH BETWEEN AEA INTERACTIONS AND CON EDISON INTERACTIONS] [IF YES, GO TO Q51. IF NO, GO TO Q52]
- 51) [IF THEY RECALLED AN INTERACTION WITH CON EDISON STAFF] Using a five-point satisfaction scale where five indicates “very satisfied” and one indicates “very dissatisfied”, how would you rate your satisfaction with the Con Edison program staff?

- a. [IF RESPONSE TO Q51 = 1-3] Why did you give that satisfaction rating for your interactions with the Con Edison program staff?

52) Taking into consideration everything we talked about – the program information, the free audit, the installation of the energy efficient equipment, the rebate payment and paperwork process, and the interaction with contractors or program staff – what would be your overall level of satisfaction with the Con Edison Multifamily Electric and Gas Program? Once again please use a five-point satisfaction scale where five indicates “very satisfied” and one indicates “very dissatisfied”.

- a. [IF RESPONSE TO Q52 = 1-3] Why did you give that satisfaction rating for the program as a whole?

53) Do you have any suggestions about how the design or delivery of the program could be improved? [IF NO THANK AND TERMINATE]

- a. [IF YES] What are these suggestions?

These are all the questions I have for you today. Thanks very much for your time. It is greatly appreciated.

Con Edison Multifamily Electric and Gas (MFEG) Program – Revised Interview Guide for Nonparticipating Multifamily Property Managers/Owners

Purpose: This is the interview guide for multifamily property managers/owners who the MFEG program has tried unsuccessfully to recruit into the program. As explained in the MFEG sampling plan, we plan to complete interviews with 30 of these nonparticipating property managers. The interview guide will have the following research objectives:

Interview Research Objectives:

- 1) Understanding the types of companies (e.g., size, management structure, capital improvement processes etc.) and properties (e.g., size, heating/cooling equipment, etc.) that are not interested in participating in the MFEG program after contact from the program.
- 2) Learning about their sources of program awareness and knowledge, the adequacy of program information, and their reasons for deciding **not** to participate.
- 3) Learning about their general knowledge of energy efficiency.
- 4) Gathering information about what barriers they face in implementing energy efficiency projects

Target Respondents: Nonparticipating Multifamily Property Managers/Owners

[INSTRUCTIONS FOR INTERVIEWERS:

- 6) **BEFORE BEGINNING THE INTERVIEW, FILL IN THE INFORMATION IN THE TABLE BELOW AND FAMILIARIZE YOURSELF WITH IT]**
- 7) **AT THE START OF SOME QUESTIONS THERE WILL BE A CONDITIONAL “IF” STATEMENT IN CAPITAL LETTERS WITHIN A BRACKET. THESE QUESTIONS SHOULD BE ONLY ASKED IF THE CONDITIONAL STATEMENT IS TRUE. OTHERWISE THE INTERVIEWER SHOULD SKIP TO THE NEXT QUESTION AT THE SAME INDENTATION LEVEL.**
- 8) **FOR THE RESPONSES “YES,” “NO”, “DON’T KNOW” AND “REFUSED”, YOU SHOULD WRITE THESE OUT VERBATIM EXCEPT DON’T KNOW CAN BE ABBREVIATED AS “DK.”**
- 9) **TRY TO ADD VALUE ON THE OPEN-ENDS: SOME OF THE QUESTIONS ARE CATI-LIKE AND DON’T REQUIRE MUCH ON YOUR PART. SO TO ADD VALUE, TRY TO GET RICHER RESPONSES ON SOME OF THE OPEN-ENDED QUESTIONS. FEEL FREE TO PROBE DEEPER BASED ON PROPERTY MANAGER RESPONSES.**

Information to be Pre-Coded by Surveyor

<u>Company Name</u>	
<u>Contact Name</u>	
<u>Billing Street Address</u>	
<u>Billing City and State</u>	
<u>Lead Source</u>	
<u>Pipeline Status (IF RECORD OF AUDIT COMPLETED, RECORD BUILDINGS WHERE AUDIT OCCURRED)</u>	

Finding the Decision-maker and Introduction

- 1) Hello, may I please speak with [USE CONTACT NAME IF AVAILABLE]?
- 2) [IF NO CONTACT NAME AVAILABLE] I'd like to speak with the person responsible for managing property improvements, especially relating to Energy Efficiency improvements.
- 3) [ONCE APPROPRIATE CONTACT IS ON THE PHONE] Hello I am _____ from _____. I am calling on behalf of Con Edison. We're evaluating one of Con Edison's energy efficiency programs for multifamily buildings. Con Edison is trying to improve its programs, and I was hoping you could help us out by answering a few questions
- 4) [IF PIPELINE STATUS INDICATED AN AUDIT WAS DONE AT THE FACILITY] According to our records, the Con Edison Multifamily Electric and Gas Program did a free energy audit at your building at [AUDIT ADDRESS] in [AUDIT DATE]. Are you familiar with this audit or this building?

Background Information

First I would like to get some background information about you, the property at <BILLING STREET ADDRESS> in <BILLING CITY>, and your company.

- 5) What is your position or job title at <BILLING STREET ADDRESS> or with the company that manages this property?
- 6) About many years have you personally been in the business of owning, managing, or maintaining multifamily properties?
- 7) About how many apartment units are located in the building or buildings at < BILLING STREET ADDRESS>? [RECORD # UNITS]
- 8) Are the tenants at < BILLING STREET ADDRESS> responsible for paying their own utility bills, or are utilities included in the rent? [CHECK APPROPRIATE BOX]
 - a) Tenants pay their own utility bills []
 - b) Utilities included in the rent []
- 9) Is the electricity for the tenant units in the building at < BILLING STREET ADDRESS> individually metered or master-metered? [CHECK APPROPRIATE BOX]

- a) Individually metered []
- b) Master metered []

10) Is the gas for the tenant units in this building individually metered or master-metered?
[CHECK APPROPRIATE BOX]

- a) Individually metered []
- b) Master metered []

11) Is the water for the tenant units in this building individually metered or master-metered?
[CHECK APPROPRIATE BOX]

- a) Individually metered []
- b) Master metered []

12) Do you or your firm own the property at < BILLING STREET ADDRESS>, do you manage it, or do you both own and manage it? [ACCEPT ONLY ONE ANSWER]
[CHECK APPROPRIATE BOX]

- a) Own it only []
- b) Manage it only []
- c) Own it and manage it []

13) About how many multifamily properties in the greater New York City and Westchester County areas does your company own or manage?

Energy Efficiency Standard Practices, Energy Efficiency Awareness, Implementation Barriers

14) Now I want to ask you a few questions about your standard practices concerning the purchase of energy-using equipment such as boilers, water heaters, lighting, appliances, etc. When you install energy-using equipment in one of your buildings, how do you decide what type of equipment to choose?

[PROBE FOR:

- Sources of information
- Influencers (and degree) on equipment selection (within and external such as contractors)
- Factors in decision (DON'T PROBE FOR ENERGY EFFICIENCY AND SEE IF IT COMES UP. IF YES ASK 15 A AND 15B HERE)
- Key decision-makers within company and decision-making process

- If and how process differs for different situations
 - Cost
 - Emergency replacement
 - Tenant versus common areas
- What do you consider when prioritizing capital improvement projects

15) [IF ENERGY EFFICIENCY NOT RAISED IN Q14] When you are purchasing energy-using equipment, do you consider energy efficiency?

- a. [IF YES] How do you consider energy efficiency when making equipment purchase decisions?
 - i. Does your company have any policies regarding equipment efficiency?
[PROBES: FORMAL WRITTEN, INFORMAL] What's the policy?

16) [IF NO TO Q15, ELSE SKIP TO Q17] Why don't you consider energy-efficiency when making equipment purchase decisions?

17) Have you installed energy-efficient measures in your building?

- a. [IF YES] Which energy-efficient measures have you installed in your building?
- b. [IF NO] What, if any energy-efficient measures do you plan to install in this property in the next 12 months?

18) Have you or your company recently identified any opportunities to improve the energy efficiency of your multifamily buildings?

- a. [IF YES] What are these opportunities?
- b. [IF YES] Have you taken any actions to implement these energy efficiency projects?
 - i. [IF YES] What have you done?
 - ii. [IF NO] Why not?

Participation Information, Drivers

Now I would like to ask you some questions about Con Edison's Multifamily Electric and Gas Program.

19) [SKIP THIS QUESTION IF THEY INDICATED FAMILIARITY WITH THE PROGRAM IN RESPONSE TO THE QUESTIONS IN THE INTRO] Are you aware of this program? [IF YES, CONTINUE WITH QUESTION 20. IF NO, SKIP TO QUESTION 26]

20) How did you first hear about the Multifamily Electric and Gas Program? [CHECK APPROPRIATE BOXES]

- a) Con Edison website []
- b) MFEG program website []
- c) Con Edison mailer/brochure []
- d) Con Edison Power of Green campaign []
- e) Phone call from AEA sales rep []
- f) MFEG program print advertisement []
- g) MFEG program online advertisement []
- h) Multifamily trade association/organization meetings/shows []
- i) Email notification []
- j) Program kickoff meeting []
- k) Other sources [SPECIFY] _____

21) What was your understanding of how the program worked? [PROBE FOR ENERGY EFFICIENT IMPROVEMENTS, MEASURES, INCENTIVES OR REBATES, OR AUDITS]

22) Did you receive any information from either Con Edison or the Association for Energy Affordability, Inc. (AEA) about how the Multifamily Electric and Gas Program works? [IF NO SKIP TO 22D.]

a. [IF YES] What kind of information did you receive? [PROBE FOR SOURCE AND TYPE OF INFORMATION (E.G., BROCHURE)] [CHECK APPROPRIATE BOXES]

- i. Con Edison website []
- ii. MFEG program website []
- iii. Con Edison mailer/brochure []
- iv. Con Edison Power of Green campaign []
- v. Phone call from AEA sales rep []
- vi. MFEG program print advertisement []
- vii. MFEG program online advertisement []
- viii. Multifamily trade association/organization meetings/shows []
- ix. Email notification []
- x. Program kickoff meeting []
- xi. Other sources [SPECIFY] _____

- b. After receiving this information, were there any aspects of this program that you did not understand or wanted to know more about?

- i. [IF YES] What aspects of the program?

- c. Using a satisfaction scale where 5 equals “very satisfied” and 1 equals “very dissatisfied”, how satisfied have you been with the information you received in terms of explaining how the program worked?

- i. [IF RESPONSE TO Q22C = 1-3] Why did you give that satisfaction rating for the program information?

22D. If Con Edison wanted to provide you information about this program in the future, which information channels should they use?

23) [IF THEIR PIPELINE STATUS INDICATES THEY RECEIVED AN AUDIT ELSE SKIP TO Q25] According to our records your building on [AUDIT ADDRESS] received a free energy audit from this Con Edison program.

- a. Do you recall getting that audit? [IF NO SKIP TO Q25]
- b. What did you think of the audit? (PROBES: INFORMATION PROVIDED, AUDIT REPORT, USEFULNESS OF RECOMMENDATIONS),

24) Have you made any of the energy efficient improvements recommended by this audit?

- a. [IF YES]
 - i. Which of the recommended energy-efficient improvements did you make and why?

- ii. Did any of the energy-efficient improvements receive rebates from this Con Edison Multifamily Electric and Gas Program?

- 1. [IF NO] Why not?

- iii. Which of the recommended energy-efficient improvements DIDN'T you make and why not?

- b. [IF NO] Why haven't you made any of the energy-efficient improvements recommended by the audit?

25) [SKIP IF THEY RESPONDED TO Q24] According to our records you have not installed any energy-efficient measures that received rebates from the Con Edison Multifamily Electric and Gas program. Is this correct?

- a. [IF YES] Why haven't you chosen to participate in this Con Edison Multifamily Electric and Gas rebate program?
- b. [IF NO] For which energy-efficient measures did you receive rebates from the Con Edison Multifamily Electric and Gas program? [RECORD AND THEN THANK AND TERMINATE]

26) [ASK THIS QUESTION ONLY TO RESPONDENTS WHO WERE NOT AWARE OF THE CON ED MULTIFAMILY ELECTRIC AND GAS PROGRAM IN QUESTION 19.] The Con Edison Multifamily Electric and Gas program offers free energy audits of multifamily buildings with 5-75 units that covers both tenant units and common areas. Through the program building owners can get direct install measures, refrigerator replacement, and incentives or rebates for other energy efficiency upgrades.

On a scale of 1-10, with one being very unlikely and 10 being very likely, how likely are you to participate in this program in the next 2 years?

- a. What would keep you from participating in this program?
- b. What would motivate you to participate in this program?
- c. [IF THEY INDICATE THEY WOULD FIRST WANT ADDITIONAL INFO] What additional information would you like to have?

27) [ASK QUESTION OF ALL RESPONDENTS] In general what factors make it difficult for you to implement energy-efficient measures in your common areas? [CHECK ALL APPROPRIATE BOXES BUT PROVIDE ADDITIONAL INFORMATION FOR EXPLANATORY PURPOSES IF NEEDED]

- a. initial cost, []
- b. lack of available capital []
- c. unawareness of energy efficient options []
- d. higher priority criteria (e.g. security, safety) in project selection process []
- e. quality/reliability concerns about energy efficient equipment [] [IDENTIFY EQUIPMENT]
- f. unfamiliarity with energy efficient equipment, [] [IDENTIFY EQUIPMENT]
- g. institutional practices/policies [] [EXPLAIN]
- h. Other barriers [SPECIFY]

28) In general what factors make it difficult for you to implement energy-efficient measures in your tenant units? [CHECK ALL APPROPRIATE BOXES BUT PROVIDE ADDITIONAL INFORMATION FOR EXPLANATORY PURPOSES IF NEEDED]

- a. initial cost [☐]
- b. lack of available capital [☐]
- c. unawareness of energy efficient options [☐]
- d. split incentives (tenants pay energy bills [☐]
- e. higher priority criteria (e.g. security, safety) in project selection process [☐]
- f. quality/reliability concerns about energy efficient equipment [☐] [IDENTIFY EQUIPMENT]
- g. unfamiliarity with energy efficient equipment, [☐] [IDENTIFY EQUIPMENT]
- h. institutional practices/policies [☐] [EXPLAIN]
- i. concerns about tenants taking/breaking energy efficient equipment (e.g. CFLs). [☐]
- i. Other barriers [☐] [SPECIFY]

29) Are you aware of any other programs in New York that promote energy efficiency in multifamily buildings?

- a. [IF YES] Which other programs are you aware of?
- b. [IF YES] Have you participated in any of those programs?
 - ii. [IF YES] Which programs have you participated in?

These are all the questions I have for you today. Thanks very much for your time. It is greatly appreciated.