



## PROCESS EVALUATION PLAN FOR CON EDISON'S MULTI-FAMILY LOW INCOME PROGRAM

Prepared for:  
**Con Edison**



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# INTRODUCTION

## Purpose and Use of this Evaluation Plan

This document is the Process Evaluation Plan for the Multi-Family Low Income (MFLI) Program. Consolidated Edison (Con Edison) is delivering this program as part of the Energy Efficiency Portfolio Standard (EEPS) Utility Administered programs, as ordered by the New York Public Service Commission.<sup>1</sup>

Con Edison is committed to independent and transparent program evaluations. The Company selected the Navigant team to complete process evaluations for all of the Company's EEPS programs through a competitive bid process.<sup>2</sup> The Navigant team also includes KEMA, APPRISE and SERA.

KEMA is leading the evaluation of the MFLI program, with Navigant providing overall guidance and APPRISE assisting KEMA with the in-depth interviews. Con Edison's Section Manager for Measurement, Verification & Evaluation will manage the process evaluation for this program. This Section Manager reports directly to the Director of Energy Efficiency Programs to maintain internal independence.

The New York Department of Public Service (DPS) is the oversight agency for program delivery and evaluation. Con Edison will provide the DPS the opportunity to review and comment on key documents within a reasonable time frame<sup>3</sup> throughout the process evaluation. However, no DPS approval will be assumed if that time frame is exceeded. Key documents include this Plan, the in-depth interview guides, and the draft final report. Con Edison will provide a response to DPS comments identifying how each comment was addressed. In addition, Con Edison will invite the DPS to attend and provide input during key evaluation meetings.

This Process Evaluation Plan (PEP or the Plan) is the first product of the MFLI process evaluation. The evaluation team developed the Plan consistent with the NYSPSC's Evaluation Plan Guidance for EEPS Program Administrators issued on August 7, 2008. The evaluation team will use the plan to guide evaluation work going forward for this program. We will use this plan to track evaluation progress against key milestones. We will identify any deviations from the plan during the weekly update calls with the Companies and include them in monthly reports provided to the Companies with the monthly invoices. The evaluation team may identify program issues whose resolution can have an immediate substantive impact on

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<sup>1</sup> This plan is a revised version of the research plan submitted August 30, 2010. This version addresses DPS comments and accommodates the fact that the MFLI program is unlikely complete a substantial number of projects in the original evaluation time frame.

<sup>2</sup> Consolidated Edison will be issuing a separate request for proposals to solicit an independent evaluation contractor for EEPS impact evaluations.

<sup>3</sup> We have assumed 10 business days for DPS review when developing the evaluation schedule. However, no DPS approval will be assumed if that time frame is exceeded.

the current program year. In this case the Navigant team will inform the Con Edison Section Manager promptly and recommend modifications to the processes involved.

## Program Summary

The MFLI Program was designed and subsequently approved to provide funding to the New York City Housing Authority (NYCHA) and the Westchester County Housing Authorities (WCHA) for prescriptive rebates of up to 100 percent of the incremental cost of qualifying cost-effective high efficiency gas heating equipment, such as boilers and furnaces, and up to 100% of the installed cost for other eligible measures, such as building weatherization measures. Additionally, new technologies or customized applications of other cost-effective energy savings measures may be submitted and approved.

The MFLI Program is administered by Con Edison and implemented through NYCHA and WCHA with their existing protocols and processes modified to meet the MFLI Program criteria. NYCHA and WCHA can develop and submit energy efficient (EE) projects with program-approved eligible measures, including the ability to submit new technology or customer measures for review. Con Edison has developed processes for evaluating the energy savings potential and cost-effectiveness of all proposed EE projects and Con Edison will determine which submitted projects are eligible for the program. Con Edison will monitor and verify all installations according to the EAG-approved measurement, verification & evaluation (MV&E) protocols, and the Technical Manual established for the Multi family customer segment. In addition, Con Edison will establish the tracking and reporting necessary to meet program requirements.

Table 1 summarizes the incentives for the program energy efficiency. In addition to these prescriptive incentives, Con Edison will allow additional custom measures as long as these measures are subject to an independent engineering analysis to estimate energy savings and these measures can pass the Total Resource Cost (TRC) test. The steam trap is an example of such a custom measure that is being implemented by the Yonkers Housing Authority.

**Table 1: Summary of MFLI Prescriptive Program Incentives**

Measure	Eligibility Rating	Incentives
High Efficiency Water Boiler	>= 85% AFUE	100% of incremental cost
High Efficiency Water Boiler	>= 90% AFUE	100% of incremental cost
High Efficiency Steam Boiler	>= 82% AFUE	100% of incremental cost
High Efficiency Gas Furnace	>= 90% AFUE	100% of incremental cost
Attic Insulation*	Bring level to code or above code requirements and must meet the TRC if greater than 1.0	100% of installed cost
Basement Insulation*	Bring level to code or above code requirements and must meet the TRC if greater than 1.0	100% of installed cost
Floor Insulation*	Bring level to code or above code requirements and must meet the TRC if greater than 1.0	100% of installed cost
Wall Insulation*	Bring level to code or above code requirements and must meet the TRC if greater than 1.0	100% of installed cost
Reduced Air Infiltration*	Must Meet TRC of greater than 1.0	100% of installed cost
Weather Stripping and Sweeps for Doors*	Must Meet TRC of greater than 1.0	100% of installed cost
Pipe Insulation*	Must Meet TRC of greater than 1.0	100% of installed cost
Vent Dryer/Bath Fan*	Must Meet TRC of greater than 1.0	100% of installed cost
HVAC Tune-Up & Repair*	Must Meet TRC of greater than 1.0	100% of installed cost

Note: An asterisk (“\*”) next to an energy efficiency measure in the above table means that the measure is included in a bundle of energy efficiency measures that will be offered to program participants. For this program, weatherization, insulation and air sealing measures were modeled in a bundle, with costs, therm savings and useful life assumptions representing a bundle of approximately fifty energy efficiency measures.

### **Program Goals and Objectives**

The MFLI program is designed to cost-effectively contribute to New York State’s and New York City’s energy efficiency goals. The program’s current goal is to achieve savings of 31,349 dekatherms (Dth) by the end of 2011. Table 2 shows these savings goals by program year.

*Table 2: Con Edison - MFLI Participation and Savings Goals*

	2009/2010	2011	Total
Savings (Dth)	15,647	15,702	31,349

### **Program Start and Progress to Date**

The following timeline summarizes key dates in the MFLI program history.

- **July 2009:** The New York Public Service Commission (NYPSC) approves the MFLI program.
- **August 2009 -** Con Edison had initial meetings with the eligible entities from NYCHA and WCHA to explain the program and to encourage them to identifying potential projects. Since this initial meeting Con Edison has had regular meetings and discussion with the eligible entities.
- **September 2009:** Con Edison submits detailed program implementation plans to the NYPSC.
- **October 2009:** The housing authorities are given until December 2009 to submit proposed projects for MFLI program funding.
- **December 2009:** NYPSC approves the MFLI implementation plan. Con Edison receives project proposals from some public housing authorities (PHAs).
- **February 2010:** Con Edison hires ICF International to review the energy savings calculations for the projects submitted by the PHAs for MFLI funding.
- **February-April 2010:** ICF reviews and approves projects submitted by PHAs (primarily Yonkers and NYCHA). Con Edison tests whether the proposed measures pass Total Resource Cost (TRC) criteria. Con Edison rejects some proposed NYCHA projects due to free ridership concerns.
- **July 2010:** The U.S. Department of Housing and Urban Development (HUD) approves the Yonkers Phase 1 (smaller scale) projects.
- **September 2010:** The Yonkers Housing Authority received HUD approval for its Phase 2 (larger scale) projects.

As of the date of this research plan (October 2010), the MFLI does not have any implemented projects or acquired energy savings. Con Edison indicated that the program may complete some installations in the fall of 2010, but that the majority of the current project commitments will not begin installation until the spring of 2011.

## Program Theory and Logic Model

Con Edison did not develop an explicit program theory or logic model for the MFLI program. However, evaluators conducted three separate interviews with the MFLI program manager in developing this research plan and these interviews indicated that the MFLI program is a traditional resource acquisition program. The key objective of the program is to achieve its term savings goals. The program does not have any subsidiary goals such as customer education or market transformation.

The program manager also observed that the MFLI program differs from most other Con Edison energy efficiency program in that the entities that decide whether or not to implement energy efficiency projects are not Con Edison residential or nonresidential customers, but rather PHAs. Since the universe of program-eligible PHAs is very limited – essentially NYCHA and 10 PHAs in Westchester County – some of the program strategies implemented by other Con Edison energy efficiency programs will not be relevant for the MFLI program. For example, while other programs have to develop detailed marketing and outreach strategies to recruit customer participants, it was fairly easy for the MFLI program to make contact with all the eligible PHAs. The initial 2009/2010 cycle of the MFLI program also only has about a dozen approved projects, so this greatly simplifies the project tracking process.

Another unique feature of the MFLI program is the involvement of HUD. For MFLI projects to be funded they must receive HUD approval, in addition to Con Edison approval. The HUD approval process introduces an additional complication in implementing projects that other Con Edison energy efficiency programs do not have.

Despite these differences, the MFLI program also shares many similarities with other Con Edison programs. For example, like commercial and industrial (C&I) customers, PHAs have capital improvement budgets that limit how much they can spend for building improvements in any given year. Therefore when considering energy efficiency projects, they face some of the same capital constraint barriers that C&I customers face. Furthermore HUD requirements that projects must meet certain payback criteria to receive funding are very similar to the project payback thresholds that many companies require.

# PROCESS EVALUATION OVERVIEW

## Evaluation Objectives

The overall objective of the MFLI process evaluation is to assess the effectiveness and efficiency of program design, delivery and implementation processes to achieve the program outcomes. The evaluation will result in clear and actionable recommendations to support the program in improving operations and meeting its savings goal.

The process evaluation will address the following program areas:

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

The kickoff meeting for the process evaluation of the MFLI program was held in late June 2010. In September 2010 some large projects through the Yonkers Housing Authority received HUD approval and Con Edison committed funding for their completion. Rather than waiting for these projects to be implemented, the evaluation team is proposing to divide the process evaluation into two phases:

- **Phase I:** This research will be conducted prior to project completion and will focus on barriers to program participation faced by PHAs, barriers to project implementation faced by participating PHAs, the project identification/approval processes, and interim assessments of program satisfaction from participating PHAs. This initial phase of research is important to help find answers as to why only two of the eleven eligible PHAs are participating and why the program was unable to claim any energy savings in 2010. We anticipate this research beginning in October 2010, with a draft Phase I memorandum of interim findings in December 2010 and a final memorandum in January 2011. The interim findings memo will focus on identifying program changes to increase participation among small PHAs and changes to expedite program processing (if there are actions that Con Edison can take to do so.)
- **Phase II:** This part of the research will focus on project installation, Measurement and Verification (M&V), incentive payment processes and the lessons learned from these processes. During this phase we will also collect final information from participants on program satisfaction. We will conduct this research only after the installation of sufficient program projects are completed (fully installed and processed through the program). The program currently has 11 projects in process. We propose beginning Phase II of the evaluation upon completion of four projects. Since we do not know when the projects will be completed we developed a Phase II schedule based on a yet-

to-be-determined trigger date. The evaluation team will propose a trigger date as the program progresses, for approval by Con Edison.

Upon completion of Phase II we will provide a comprehensive draft report covering both the Phase I and Phase II findings and recommendations. We will produce a final report after reviewing and addressing comments on the draft report from Con Edison and the DPS.

## Research Areas and Evaluation Activities

The primary data collection method used in this process evaluation will be in-depth interviews with key program actors. As explained above, these in-depth interviews will be conducted in two phases with Phase I interviews being completed before the completion of project implementation and Phase II being completed after the projects are implemented.

### Phase I (October – December 2010)

This phase will be conducted before the completion of project implementation. The in-depth interviews for Phase I will focus on MFLI program awareness and knowledge, barriers to program participation, barriers to EE implementation, the project identification/approval processes, and interim assessments of program satisfaction. Table 3 lists the types of program actors that we plan to target and the number of in-depth interviews we expect to complete in each group. The interview topics we plan to cover in these Phase I interviews are discussed later in this plan.

*Table 3: In-Depth Interview Targets for Phase I*

Program Actors	# of Target In-Depth Interviews
Participating PHAs	2
Non-participating PHAs	5
HUD	1
Housing Authority contractors	2
Con Edison in-house project review contractor (ICF)	1
Con Edison program manager	1
<b>Total</b>	<b>12</b>

### Phase II (to be determined)

As noted, this research will be conducted after project implementation. It will focus on the project implementation, M&V, incentive payment processes and lessons learned from these processes. It will also collect final information from participants on program satisfaction and their recommendations for improving program delivery. Table 4 lists the types of program

actors we plan to target and the number of in-depth interviews we expect to complete in each group. The interview topics we plan to cover in the Phase II interviews are discussed later in this plan.

**Table 4: In-Depth Interview Targets for Phase II**

Program Actors	# of Target In-Depth Interviews
Participating PHAs	1
“Project-familiar” building property/maintenance managers	6
Housing Authority contractors	1
Con Edison in-house project review contractor (ICF)	1
Con Edison program manager	1
<b>Total</b>	<b>10</b>

Table 5 shows which interviews of program actors will collect information on which of the key research areas.

**Table 5: MFLI Process Evaluation Activities and Research Areas**

Research Areas	Participating PHA interviews	Non-participating PHA interviews	HUD interview	Participating building managers	Implementation contractor interviews	In-house project review contractor	Program manager interviews and material review
<b>1. Program Planning and Design</b>							
1.1. Possible improvements for cost-effectiveness, energy savings, participation?	✓	✓	✓	✓	✓	✓	✓
1.2. Process/design limitations re: ability to meet goals, implementation strategies?	✓	✓	✓		✓	✓	✓
1.3. Measure changes/additions to improve cost-effectiveness and participation?	✓	✓	✓	✓	✓	✓	✓
Staffing level and capabilities	✓	✓					✓
<b>2. Infrastructure Development</b>							
2.1. Info needed for program management and reporting tracked and accessible						✓	✓

Research Areas	Participating PHA interviews	Non-participating PHA interviews	HUD interview	Participating building managers	Implementation contractor interviews	In-house project review contractor	Program manager interviews and material review
2.2. Accessibility of program tracking system for evaluation and follow-up purposes.							✓
2.3. Accuracy of tracking data							✓
2.4. Completeness of data (i.e. all fields are populated)						✓	✓
2.5. Assess program quality control procedures to assure accuracy in reported savings.	✓	✓		✓	✓	✓	✓
<b>3. Marketing &amp; Customer Acquisition</b>							
3.1. Assess effectiveness of presentation of program design, purpose, and requirements	✓	✓			✓		✓
3.2. Drivers and barriers to EE project implementation.	✓	✓	✓	✓	✓	✓	✓
3.3. Drivers and barriers to program participation	✓	✓	✓	✓	✓	✓	✓
<b>4. Program Delivery</b>							
4.1. Assess project identification and approval process	✓	✓	✓		✓	✓	✓
4.2. Assess project implementation process	✓			✓	✓	✓	✓
4.3. Assess M&V process	✓			✓	✓	✓	✓
4.4. Assess incentive payment process	✓				✓	✓	✓
<b>5. Satisfaction with the Program</b>							
5.1. Satisfaction with program in general and with program processes.	✓			✓	✓	✓	✓
5.2. Lesson learned	✓	✓		✓	✓	✓	✓

## Evaluation Team and Budget

The overall process evaluation budget for the MFLI program relative to the program budget is shown in Table 6. It shows that the process evaluation budget is about one percent of the program budget. In Table 7 we show a break down of the budget by task.

**Table 6: Summary of Process Evaluation Budgets for MFLI**

Utility	MFLI Program Budget	Five Percent of Program Budget	Process Evaluation Budget	Percent of Program Budget
Con Edison	\$6,671,000	\$333,550	\$99,840	1.5%

**Table 7: Evaluation Budget**

Task	Labor	Other Direct Costs*	Total
Contribution to Overall Work Plan and Project Management	\$13,200	\$0	\$13,200
Program Group Evaluation Plan	\$6,920	\$0	\$6,920
Sample Methodology	\$1,400	\$0	\$1,400
Data Collection	\$25,840	\$2,640	\$28,480
Analysis	\$15,620	\$0	\$15,600
Reporting	\$34,240	\$0	\$34,240
<b>Total</b>	<b>\$97,220</b>	<b>\$2,640</b>	<b>\$99,840</b>

\* Includes transcription of in-depth interviews.

## Team

The Navigant (NCI) team is completing all EEPS process evaluations for the Companies. This team includes KEMA, APPRISE and SERA Consulting. Craig McDonald of Navigant is serving as the Project Director, with Steve Hastie of Navigant as the overall day-to-day Project Manager. Bobbi Tannenbaum of KEMA is serving as the Deputy Project Manager for the process evaluations and is responsible for KEMA’s contribution to the EEPS process evaluations.

KEMA is the lead firm for the MFLI process evaluation. Chris Dyson of KEMA will serve as Project Manager for the MFLI program under the direction of Bobbi Tannenbaum. Navigant will provide overall guidance to assure consistency across the evaluations. Con Edison’s Section Manager for Measurement, Verification & Evaluation will oversee the process evaluation for Con Edison.

## SAMPLE METHODOLOGY

The primary data collection method for the process evaluation of the MFLI program is the in-depth interview. The previous section showed the number of in-depth interviews we plan to complete for each one of the program actor categories. Because the populations of participating PHAs, projects, and contractors for the MFLI program are so small, we anticipate using the whole populations of these program actor categories as the sample frames. Table 8 compares the program actor populations with the target number of interviewees. Because many program actors will be interviewed in both phases, the actual number of interviews will be larger than the number of interviewees.

**Table 8: Comparing Program Actor Populations and Target # of Interviewees**

Program Actor	Estimated Population	Target # of In-Depth Interviewees
Participating PHAs	2	2
Non-participating PHAs	9	5
HUD	1	1
Housing authority contractor	2	2
“Project-familiar” building property/maintenance managers:	Exact number to be determined	6
Con Edison in-house project review contractor	1	1
Program manager/staff	1	1

These estimated populations in the table require some additional explanation:

- **Participating/Non-participating PHAs:** Currently there are two active PHAs (Yonkers, NYCHA) that have projects in the MFLI program pipeline. New Rochelle had submitted projects that were determined to be eligible, but they are not actively pursuing them at this time. Greenburgh has submitted a project that was determined to be eligible, however, they removed themselves from the Con Edison program to participate in a NYSERDA-administered program, which provided more incentives. Interviews with the MFLI program manager indicate that only Yonkers and NYCHA have approved projects, and it is unlikely that any of these projects will be implemented in 2010.
- **HUD, Con Edison in-house project review contractor:** Although HUD and ICF have more than one employee, preliminary interviews with the MFLI program manager and the participating PHAs identified only one individual within each of these organizations that has broad familiarity with the MFLI program.
- **Housing Authority contractors:** Currently only Yonkers and NYCHA have selected installation contractors for their projects.

- **“Project-familiar” building property/maintenance managers:** Because we are uncertain of how many MFLI projects will be implemented in 2011, we are unable to precisely estimate the number of building/maintenance managers we will interview. The estimate in the table above assumes that the 2011 population of projects will include most of the 11 Yonkers projects in the pipeline, as well as 2-3 NYCHA projects. We will select the interview respondents from the population of implemented projects at the time of sample selection.

For the cases (non-participating PHAs and property/maintenance managers) where the estimated population is somewhat larger than our target number of interviewees, we will likely stratify for size (e.g., have a large PHA and small PHA bin and a large property and small property bin). We will then randomize the order of the participants within these bins for our call list.

This section summarizes our data collection activities.

### Program and Marketing Materials Review

The interviews with the program manager indicated that the MFLI program has no market materials per se. However, we plan to review the presentation that the MFLI program manager gave to the PHAs in October 2009. We will also review other program documents such as the program implementation plan and the acceptance letters that Con Edison is planning to send to the Yonkers PHA.

### Tracking System Review

Because the MFLI program has a small number of projects, it requires a less sophisticated project tracking system than other Con Edison EE programs. We still plan to collect assessments of the program tracking database from the program actors during the in-depth interviews. We also plan to do our own review of the project tracking database, including its usefulness for later impact evaluation of the program (evaluability assessment).

### In-depth Interviews

The primary data collection method for the process evaluation of the MFLI program is in-depth interviews. We will develop a separate interview guide for each Phase and for each program actor category. We will submit the interview guides for the PHAs, HUD, ICF, and Housing Authority contractors to DPS for review. To capture the full richness of these in-depth interviews, we plan to tape record the interviews (only with the permission of the interviewee) and transcribe them. The following are descriptions of the topics to be covered by these in-depth interviews.

#### Phase I

This subsection summarizes the topics that we plan to cover in the Phase I in-depth interviews for each group of program actors that is listed in Table 3.

- **Participating and Nonparticipating PHAs**
  - **PHA background information:** Background information on the PHA's size, regional scope and housing mix; pre-program energy efficiency practices; and the responsibilities of the PHA staff.
  - **MFLI program awareness/participation:** Information on when the PHAs first became aware of the MFLI program, how they became aware of it, what they understood about the program, what motivated them to participate in the program, and how they selected projects.

- **Barriers to (energy efficient) EE project implementation:** Whether they had implemented EE projects in the past and what barriers they face in trying to implement such projects, and what assistance the MFLI program offered that made the implementation of EE projects more feasible.
- **Barriers to program participation (non-participants only):** Whether they even considered participation, (if so) why they did not participate, and what could the program do to increase the likelihood of their future participation.
- **Project identification/approval process (participants only):** Topics will include:
  - How the EE projects in the MFLI program pipeline were identified, who proposed them, how the energy savings were estimated, how the customers/ buildings were screened for program eligibility, etc.
  - Whether other EE projects were considered for MFLI financing but not included and, if so, why these projects were rejected.
  - What the processes and requirements were for project approval (including Con Edison, ICF, and HUD processes/requirements) and what the PHAs thought about these approval processes/requirements.
  - What effect other programs such as ARRA and the Con-Edison oil-to-gas conversion program may have had on project selection.
- **Satisfaction with the program, including lessons learned**
- **HUD**
  - **EE practices:** What programs, incentives, and opportunities are currently available for PHAs to make EE improvements.
  - **Barriers to EE project implementation:** What barriers PHAs in general face in implementing EE projects.
  - **MFLI program knowledge and assessment:** What they know about the MFLI program, how it compares to other EE programs that HUD works with, and how compatible it is with HUD requirements.
  - **Project assessment/approval processes:** What criteria HUD uses to decide whether to approve EE projects, how compliance with these requirements is measured, the timing of this process, and what could be done by PHAs/programs to insure quicker project approval.
- **Housing Authority contractors**
  - **How EE projects were identified:** Topics will include:
    - What consultation (if any) was conducted with PHA staff and building management/maintenance staff to identify projects,

- What auditing, billing analysis, or other means were used to identify potential projects,
  - Which EE measures/projects were seriously considered for proposal,
  - Whether any EE measures/projects were seriously considered and then rejected and (if so) why,
  - What criteria are used to decide whether EE measures/projects should be proposed, and
  - How energy savings estimates were calculated for proposed projects.
- **Project approval process:** Their experience with and assessment of the Con Edison, ICF, and HUD project approval processes.
- **Satisfaction with program so far.**
- **Con Edison in-house project review contractor (ICF)**
  - **Company ownership**
  - **Interaction with Con Edison:** How they were hired, how they define their responsibilities, and whether Con Edison clearly described their responsibilities and explained the project approval process.
  - **Project approval process:** What project information they collected from the Housing Authority's contractors, how they determined whether energy savings calculations complied with the multifamily technical manual, how they reviewed energy savings estimates for custom projects, to what degree they tried to assess free ridership, what involvement (if any) they had in the TRC calculations, and how they reported their project assessments to Con Edison.
  - **The adequacy of the program tracking database.**
  - **Satisfaction with program so far, lessons learned.**
- **Con Edison program manager:** As noted, the evaluators have already interviewed the MFLI program manager three times. One of these interviews was conducted in May 2010 in conjunction with the overall project kickoff meeting. Evaluators interviewed the program manager a second time in late June as part of the kickoff meeting for the evaluation of the MFLI program. Upon the program manager's request, evaluators interviewed him a third time in mid July as part of a discussion of the evaluation's data request. Each of these interviews collected new useful information about the program design and implementation history. We propose interviewing the Con Edison program manager again as part of Phase I of this evaluation but we propose doing this only after the other Phase I interviews have been completed. We have decided to make this the last Phase I interview mainly so we can have the program manager clarify or react to some of the program issues raised in the prior Phase I interviews. However, we also realize that

delaying this interview should reduce respondent fatigue. Issues we plan to cover in this interview include:

- **Project identification and approval processes:** We will get the program manager's confirmation of our understanding of the project identification/approval process details. We will then have him assess what went well and what could have been improved in these processes. We will ask him about the impacts of other funding sources such as ARRA and the Con Edison oil-to-gas conversion funds on whether projects are approved for the MFLI program. Finally, we will have him react to some of the project identification/approval issues raised in the prior Phase I interviews.
- **EE project implementation and program participation barriers:** We will first get the program manager's own assessment of what these barriers were. We will then summarize what the other Phase I interviewees said these barriers were and ask him to react to these assessments of these barriers.
- **Developing a program theory:** Since there's no explicit program theory in the program implementation plan, we will try to get confirmation or correction from the program manager of our understanding of the implicit program theory as it is revealed through the other Phase I in-depth interviews.
- **Lessons learned for PHA recruitment, project identification/approval, and contractor selection processes.**

## Phase II

This subsection summarizes the topics that we plan to cover in the Phase II in-depth interviews for each group of program actors that is listed in Table 4.

- **Participating PHAs**
  - **Project implementation:** Topics will include any logistical challenges with getting the equipment installed, implementation costs, any issues with installation contractors, any issues with the installed equipment, and any complaints from property owners/managers or tenants.
  - **M&V:** Topics will include their awareness and familiarity with the program's internal ex post M&V process, any logistical challenges to its implementation, and (if they were familiar with the M&V findings) their reaction to the M&V findings.
  - **Incentive payment:** Topics will include the satisfaction with incentive levels and the timeliness of the incentive payments (if timing is appropriate).
  - **Program satisfaction:** This will cover satisfaction ratings for the overall program as well as its component processes. It will also cover lessons learned.

- **“Project-familiar” building property/maintenance managers:** These will be individuals that manage and/or maintain apartment buildings in which measures were installed and which are owned or managed by PHAs.
  - **Project implementation:** (See description for PHAs above). Also we will ask them if they played any role in EE project identification and (if so) what their involvement was.
  - **M&V:** This will focus on any logistical challenges to its implementation
  - **Program satisfaction:** This will cover satisfaction ratings for the overall program as well as component processes that the building property/maintenance managers will likely be familiar with. It will also cover lessons learned.
- **Housing Authority contractors**
  - **Project implementation:** When they got involved in program, role played, interaction with various actors, assessment of the program processes.
  - **Program satisfaction:** This will cover satisfaction ratings for the overall program as well as component processes that the Housing Authority contractors will likely be familiar with. It will also cover lessons learned.
- **Con Edison in-house project review contractor (ICF):** We assume that since the in-house contractor did the ex ante project reviews, they will also be involved in any ex post M&V work on behalf of Con Edison.
  - **M&V:** Identify M&V processes – type, frequency and findings.
  - **Incentive payment:** (See description above).
  - **Program satisfaction:** This will cover satisfaction ratings for the overall program as well as component processes that the in-house contractor will likely be familiar with. It will also cover lessons learned.
- **Con Edison program manager:** For the same reasons as discussed in the Phase I summary, this interview will be conducted after all the other Phase II interviews were completed. It will also function as a “wrap up” assessment of the 2009/2010 MFLI program cycle. Topics covered will include:
  - **Project implementation**
  - **M&V**
  - **Incentive payment**
  - **Lessons learned for project implementation, M&V, and incentive payments.**

## ANALYSIS

Because our Phase I and Phase II program manager interviews will require us to get the reaction of the program manager to issues raised by other Phase I and Phase II interviewees, we will have to summarize the high-level findings from these Phase I and Phase II interviews before the program manager interviews.

### In-depth Interviews

We will analyze, qualitatively summarize and report the results of the in-depth interviews across the following relevant research areas:

- **Program Planning and Design.** Through the in-depth interviews and review of program planning documents, we will summarize the program operations and compare to how the program was planned. This will include discussion of the key players, their respective roles. We will identify features of the program design, if any, that impede program activity.
- **Infrastructure Development.** We will identify and summarize our assessment of the program infrastructure, based on results of the in-depth interviews and usefulness of the MFLI project tracking information.
- **Marketing and Customer Acquisition.** We will learn from PHAs how well the program outreach was, in terms of quality and timeliness of information. We will identify program changes in outreach (if any) that might increase participation among the nonparticipating PHAs. We will also determine what about the current efforts was successful with the participating PHAs.
- **Satisfaction with the Program.** We will assess satisfaction with the program from multiple perspectives to understand how well the program is meeting the needs of the Housing Authorities, as well as how well the program fits in with existing Housing Authority, Housing Authority contractors and property/building managers existing practices.
- **Interactions with Other Programs.** We will collect information – primarily from Con Edison staff and the PHAs – on how other programs such as ARRA and the Con Edison oil-to-gas conversion program may affect project selection and timing.

## REPORTING

The NCI team will use a program management model that supports frequent and pro-active communication with the client to meet project schedule and quality concerns. This includes:

- Weekly status updates via telephone to discuss progress, upcoming activities, data needs and outstanding issues in need of resolution.
- Monthly status updates in writing.

In order to provide Con Edison and the New York DPS with timely interim findings regarding why the MFLI program did not attract a greater number of PHAs, and had significant delays in project in project implementation, we plan for two rounds of evaluation findings:

1. *Phase I interim finding memorandum*: This December 2010 memorandum would contain the findings from our Phase I research activities. These findings will address barriers to program participation faced by PHAs, barriers to project implementation faced by participating PHAs, the project identification/approval processes, and interim assessments of program satisfaction.
2. *Draft/final MFLI program evaluation report*: This report will contain both the Phase I and Phase II research findings. The Phase II findings will focus on project implementation, Measurement and Verification (M&V), incentive payment processes and the lessons learned from these processes. It will also collect final information from participants on program satisfaction and their recommendations for improving program delivery.

KEMA will first submit a draft report for review by the Companies and, after any comments are appropriately addressed, to the DPS for review and comment. The evaluation report will include a complete description of the program operations as found, and identify where this differs from the implementation plans. The report recommendations will focus on increasing program participation (measure installation), which will improve program cost-effectiveness. The process evaluation report will contain the following sections:

- Executive summary
- Introduction
  - Program description
  - Evaluation objectives
  - Overview of Methodology
- Key findings (by research area)
  - Program planning and design
  - Infrastructure development
  - Marketing and customer acquisition
  - Program delivery

- Satisfaction with the program
- Conclusions and recommendations (by research area)
  - Program planning and design
  - Infrastructure development
  - Marketing and customer acquisition
  - Program delivery
  - Satisfaction with the program
- Appendices
  - Interview guides

## EVALUATION SCHEDULE, EVALUATION BUDGET

The MFLI process evaluation project was officially started on July 1, 2010. Below are the project schedules for Phase I and Phase II with key milestones and deliverables. The draft Phase I interim findings memorandum is due in December 2010 with the final memorandum due in January 2011. Because we are proposing that the Phase II research activities only begin when at least four projects are fully implemented, we have developed a schedule that uses this unknown trigger data as its starting point.

*Table 9: MFLI Process Evaluation Phase I Timeline*

MFLI Process Evaluation - Phase I		July					August					September					October					Nov					Dec					Jan			
Task	Description	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28			
<b>1</b>	<b>Overall Work Plan</b>																																		
	Project initiation	■																																	
	Project work plan for all programs				■																														
<b>2</b>	<b>Process Evaluation Plan</b>																																		
	Initial interviews	■		■	■																														
	Draft process evaluation plan					■	■	■	■																										
	Final process evaluation plan									■	■	■	■	■																					
<b>3</b>	<b>Develop Interview Guides</b>																																		
	Phase I interview guides													■	■	■	■																		
<b>4</b>	<b>Data Collection Tasks</b>																																		
	Phase I Interviews																	■	■	■	■														
<b>5</b>	<b>Analysis</b>																																		
	Interview analysis																				■	■	■												
<b>6</b>	<b>Phase I Interim Findings</b>																																		
	Draft Interim Findings Memo																									■	■	■	■						
	Final Interim Findings Memo																										■	■	■	■					

*Table 10: MFLI Process Evaluation Phase II Timeline*

MFLI Process Evaluation - Phase II		Month 1 after Phase II Trigger Date				Month 2 after Phase II Trigger Date				Month 3 after Phase II Trigger Date				Month 4 after Phase II Trigger Date				Month 5 after Phase II Trigger Date			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>1</b>	<b>Develop Interview Guides</b>																				
	Phase II interview guides	■	■	■	■																
<b>2</b>	<b>Data Collection Tasks</b>																				
	Phase II Interviews					■	■	■	■												
<b>3</b>	<b>Analysis</b>																				
	Interview analysis									■	■	■	■								
<b>4</b>	<b>Reporting</b>																				
	Draft Report													■	■	■	■				
	Final Report																	■	■	■	■
	Presentation of Findings																			■	

Key dates:

- October 2010
  - Finalize research plan
  - Complete interview guides for Phase I interviews
  - Begin Phase I interviews
- November 2010:
  - Finish Phase I interview guides
  - Begin analysis
- December 2010
  - Finish analysis
  - Submit draft interim findings memorandum
- January 2011
  - Submit draft interim findings memorandum
- Phase II activities: Dates yet to be determined – see schedule above for timing of activities and deliverables after trigger date.