The Consolidated Edison Multifamily Energy Efficiency Program Manual March 1, 2024

Version 2

The rates and conditions found in this program manual are effective for completed application packages submitted on or after **March 1, 2024**. These rates and conditions will remain in effect until a new version is published. Submitted applications will be eligible for the rates and conditions in effect on the date of application to the program.

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1 Program Overview

The Con Edison Multifamily Energy Efficiency Program ("MFEEP") offers incentives for installing energy-efficient electric and gas equipment and technologies. Energy efficiency can help improve the bottom line by reducing energy use and maintenance costs while increasing operating efficiencies. These upgrades can also help protect the environment. This Program Manual encompasses information on incentives and program rules for market rate buildings. Refer to the Statewide Affordable Multifamily Energy Efficiency Program Manual for information on incentives and program rules for affordable housing buildings. You can learn more at www.coned.com/affordablehousing.

For MFEEP there are two pathways for both gas and electric customers participating in the 2024 program year: the prescriptive path and the custom path. To get started, determine your project's eligibility and path, complete a short application, and speak with one of our dedicated Energy Advisors or Con Edison's implementation contractor, Willdan, with any questions about your energy-efficiency project. Once the project is approved and completed, the incentive is mailed to the customer, or directly to the Participating Contractor, with customer approval.

2 Program Eligibility

2.1 Customer Eligibility

Customers who are property owners or managers of existing multifamily buildings with five (5) or more residential units are eligible to participate.

- **Utility Customer:** Customer must be a utility customer that receives gas and/or electric delivery service from Con Edison. For gas projects, customers with a service class of SC-14 or customers receiving service via a negotiated contract are not eligible for the program.
- **Building Characteristics:** The project must be an existing multifamily, residential building(s) with five (5) or more units in each building. **New Construction is not eligible for this program.**
- Facility types such as Nursing homes, SRO's, Shelters, assist living facilities are subject to the Con Edison approval and will require additional documentation.
- **Measure Eligibility:** Customer must not have applied for or received an incentive for the same eligible measure from NYSERDA or any other utility. Please refer to the <u>Section 5</u> for measure eligibility requirements.
- **Installation Timeline:** Equipment **cannot be installed** before the customer allows for a preinspections, submits a signed preliminary incentive offer letter and receives the Notice to Proceed. For prescriptive projects, commitment letters serve as Notice to Proceed.
- **Construction Type:** Project must be an existing building(s). New construction is not eligible for this program.
- Extent of Renovation: The Program will accept renovations to existing structures defined as changes, additions, or deletions to any system or process that impacts an existing building's energy consumption and/or cost not defined as new construction or substantial renovations. Gut rehabs, defined as renovation that removes material down to structural load-bearing beams, are eligible for the Program. Exceptions to this are:
 - Change of use of occupancy (e.g., from commercial to multifamily)

- Reconstruction of a vacant structure or space within (e.g., vacant properties being retrofitted to become multifamily)
- Intended Use: The intended use of the building must be for residential purposes. Commercial facilities, such as motels/hotels, group homes, dormitories, shelters, monasteries, nunneries, assisted living facilities, and nursing homes are typically not eligible for the Program. Supportive housing, single room occupancy (SRO) facilities, and senior living residences that do not include nursing or hospitalization amenities are typically eligible for the Program. Supportive housing is defined as residences that are owned and operated by nonprofit organizations. Tenants are individuals and families who require affordable permanent housing and support services, have lease agreements, pay rent (often a percentage of their income), and abide by the terms of their lease. This group includes people who have been homeless, have histories of substance abuse, are coping with mental illness, have chronic physical illness, are young adults aging out of foster care, are homeless veterans, or are grandparents raising grandchildren.

2.2 Project Eligibility

In addition to all other requirements, all projects must also meet the following:

 All projects must be completed (all documents received, and project is ready for post inspection) by November 15, 2024 in order to be guaranteed for 2024 incentive rates. Incentives for projects completed after this date may be reduced or subject to 2025 incentive rates.

2.3 Participating Contractor Eligibility

All Contractors who participate in the Con Edison Multifamily Program must be approved Participating Contractors and meet the following requirements:

- Complete a Participating Contractor application and submit a project into the Multifamily program. The Participating Contractor application will not be approved until the associated project is submitted to the Multifamily program for incentives
- Provide updated IRS Form W-9 and Certificate of Insurance policy (minimum \$1M General Liability) with the participating contractor application
- Attend Multifamily program training
- Complete at least 1 project in the program annually
- Adhere to the participating contractor participation requirements
- Adhere to program requirements
- Maintain an approved participating contractor status

Only Participating Contractors (PC) in good standing, consistent with the PC participation requirements, will be allowed to accept incentive payments on behalf of the customer.

2.4 Participating Contractor Participation Requirements

The goal of this policy is to verify that projects in the Program meet all Program requirements and customers are left satisfied with their Participating Contractor's performance.

Probation and Expulsion Procedure

Based on the findings of Con Edison quality assurance and quality control activities, the Program will document and inform Participating Contractors of any deficiencies and any corrective actions that need to be

taken. Participating Contractors who deliver inconsistent results will be considered for probation or expulsion. The following is the Program's disciplinary policy:

- 1. A warning, probationary, or suspension period may be used for participating contractors as an initial step towards expulsion. The participating contractor will be notified in writing that they are now subject to a warning or probationary period. The notification will outline the deficiencies that have been found, the period of warning or probation (time), and any corrective actions that the participating contractor must take in order to be re-instated to full participation status. Warning period is defined as a temporary notice in which the Participating Contractor must take corrective actions while they continue to participate in the program. Probationary period is defined as a **temporary removal** of a participating contractor from participation in the program.
- 2. If a participating contractor does not meet the corrective actions outlined in their notification of probation, then they will be subject to program expulsion. If a participating contractor receives a second probationary period in any twelve-month period, or if they are found to engage in misconduct, they will be subject to immediate program expulsion. The participating contractor will be notified in writing of their expulsion. The notification shall state the deficiencies found in their performance, the reason for expulsion, and potential steps (if any) the participating contractor could take in order to be reinstated. Reinstatement is never guaranteed and is left to the discretion of the Program.
- 3. If the participating contractor is placed under a disciplinary status within another Con Edison program then they may automatically be placed on probation/suspension in the Multifamily Program until the issue in the other program is resolved. The Program will make the determination based on the reason for probation. Participating Contractors must inform Multifamily staff via <u>ConEdMultifamily@Willdan.com</u> of probation or expulsion from other Con Edison programs.

Program expulsion is defined as the **permanent removal** of the Contractor from the Program. All the privileges of Program participation will be revoked including but not limited to the use of all marketing materials associated with the Program.

2.5 Non-Wires Solutions Multifamily Adder

The Non-Wires Solutions (NWS) MFEEP Adder, marketed to customers as the Neighborhood Program, allows Con Edison to maintain reliable electric service during peak periods of energy use by reducing customers' peak electric demand as an alternative to building costly new infrastructure and power lines. The NWS MFEEP Adder offers MFEEP participants additional incentive dollars to further reduce the cost to install eligible energy efficient upgrades.

Con Edison currently offers this program in targeted electric network areas in Brooklyn and Queens. There are two areas eligible for the Neighborhood Program in 2024: BQDM (Brooklyn Queens Demand Management) and Jamaica.

Information on the latest eligible territories can be confirmed on the program's <u>website</u> or by contacting the Willdan via <u>ConEdMultifamily@Willdan.com</u>.



Figure 1: Non-Wires Solutions Eligibility Map

2.5.1 NWS Eligibility

MFEEP projects providing electric demand savings may be eligible to receive an NWS MFEEP Adder incentive. Adder incentives are additional to the incentives provided by the broader MFEEP. The NWS MFEEP Adder incentive may cover up to 100 percent of the cost of installing energy efficiency upgrades for eligible customers when combined the base and any available promotional MFEEP incentive offers.

A customer account is eligible if the account is located within a qualifying Neighborhood Program coverage area and receives electric service from a qualifying electric network or area substation. NWS Adder incentives are only offered on measures for which a Neighborhood Program Adder is listed on the incentives list. Eligibility for NWS MFEEP Adder incentives will be determined at the same time as eligibility for the broader MFEEP. Applicants need only to submit one MFEEP Application package to be considered for applicable NWS Adder incentives.

Customers' accounts located in the following neighborhoods may be eligible for the Neighborhood Program:

• **Brooklyn**: Bushwick, Brownsville, Crown Heights, Cypress Hills, East Flatbush, East New York, East Williamsburg. Parts of Greenpoint and Bedford-Stuyvesant.

• **Queens**: Bellerose, Briarwood, Broad Channel, Brookville, Cambria Heights, Floral Park, Hollis, Howard Beach, Jamaica, Jamaica Estates, Kew Gardens, Laurelton, Ozone Park, Queens Village, Richmond Hill, Rosedale, South Jamaica, St. Albans, Woodhaven. Parts of South Ozone Park, and JFK International Airport area.

2.5.2 NWS Measures and Incentives

The incentives available through the NWS MFEEP Adder allow for the purchase and installation of more energy efficient equipment such as lighting, elevator modernization, and HVAC replacements and upgrades. Eligible measures and associated NWS MFEEP Adder incentive rates are listed in the following tables.

Qualifying MFEEP projects may participate in the NWS MFEEP Adder incentive program through the prescriptive or custom pathway. All project measures following the NWS custom pathway must be preapproved by the NWS Program Team to be considered for the NWS Adder incentive prior to commencing work.

NWS Prescriptive Incentives			
Installed Measure	Measure Detail	NWS Adder MFEEP Rate Incentive \$	
Common Area LED	LED Linear Lamps	\$17 per lamp	
Lighting	A-Lamp/4Pin	\$9 per lamp	
	MR/PAR 16	\$9 per lamp	
	R/PAR 20	\$9 per lamp	
	BR/PAR 30	\$9 per lamp	
	PAR 38	\$9 per lamp	
	BR 40	\$9 per lamp	
	LED Interior New Fixture Linear	\$100 per fixture	
	LED Interior New Fixture Non-Linear	\$80 per fixture	
	LED Exit Sign New Fixture	\$8 per fixture	
Exterior New Fixtures	LED Exterior Fixture ≤ 100W	\$110 per fixture	
	LED Exterior Fixture ≤ 100W	\$145 per fixture	
LED Lighting Controls	LED Bi-Level Fixtures – Stairwell, Corridor, Parking Garage	\$70 per fixture	
	LED Bi-Level Fixtures – Parking Lot	\$60 per fixture	

Table 2.2.5.A: MFEEP and AMEEP Measures Eligible for NWS Adder Incentives - Prescriptive

Relamp and reballasting, retrofit kits	LED Interior Re-lamp and Re-ballast	\$22.50 per replacement
	LED Interior Retrofit Kit Linear	\$22.50 per retrofit
	LED Interior Retrofit Kit Non-Linear	\$22.50 per retrofit
	LED Exterior Fixture ≤ 100W Relamp and Reballast	\$40 per replacement
	LED Exterior Fixture >100W Relamp and Reballast	\$25 per replacement
	LED Exterior Relamp and Reballast Replacing Screw or Pin Based CFL	\$60 per replacement
HVAC	Packaged Terminal Air Conditioner	Up to \$2,000 per kW saved
	EC Motors for Blower Fans (NEW MEASURE)	Up to \$2,000 per kW saved

Table 2.5.2.B: MFEEP and AMEEP Measures Eligible for NWS Adder Incentives - Custom

NWS Custom Market Rate Incentives				
Installed Measure	Measure Detail	NWS Adder MFEEP Incentive \$		
Elevator Modernization	Elevator Modernization Upgrade	Up to \$2,000 per kW saved		
HVAC	Chiller Replacements	Up to \$2,000 per kW saved		
	Cooling Tower Replacements	Up to \$2,000 per kW saved		

2.5.3 NWS Adder Incentive Eligibility Deadlines

Newtown: Customer projects sold *after* **December 31**, **2023**, in a Newtown network are ineligible for NWS Adder Program incentives. Eligible Newtown projects must be installed no later than **April 15**, **2024** *and* must be marked as "Approved" in SMART or Viewpoint no later than **May 31**, **2024**. Newtown projects that do not meet these deadlines will only qualify for standard MFEEP Program incentives.

Jamaica: NWS Adder Program incentives continue to be offered in 2024 for customer projects located in the Jamaica network if submitted on or after July 1, 2023.

BQDM: NWS Adder Program incentives continue to be offered in 2024 for customer projects located in a BQDM network.

2.6 Non-Pipes Alternatives (NPA) Adder

Con Edison offers NPA Adder incentives to eligible Soundview gas customers located within the approximate bounds of the blue outlined area illustrated in Figure 1 below for measures which provide gas peak load reduction. Gas peak load reduction in this area achieved prior to November 1, 2025, will enable the company to avoid a gas system reinforcement project.





2.6.1 Program Eligibility and Incentives

Customers installing eligible Multifamily gas energy efficiency measures as described in the table below may receive adder incentives capped at **100% of total project cost, including all offers through the Multifamily Energy Efficiency program.**

A customer signed NPA Bonus Program Incentive Offer letter will be mandatory to participate in the program with projects undergoing Measurement and Verification (M&V) activities on a case-by-case basis, with incentive payments not necessarily tied to the outcome of the M&V effort. Work should not begin until offer letter is signed, returned. and Notice to Proceed is issued.

It is important to highlight that the NPA Adder program follows the same path as the Multifamily Energy Efficiency Program (non-comprehensive path) with the added expectation that measurement and verification oversight may occur, either via desk review and/or onsite verification. These efforts provide sufficient information to verify expected load relief within the forecasted peak demand period. Con Edison may develop project-specific M&V plans as appropriate. A combination of desk reviews, verifications, ex-ante and ex-post metering, billing analyses, and sampling may be used in all projects.

Generally, both NPA and Multifamily program incentives may be paid once the requirements of the program(s) have been met and provided to the project payee in separate checks.

NPA Gas Prescriptive Adder Incentives			
Installed Measure	Incentive Detail	NPA Bonus Incentive \$	
	Roof and Wall Insulation R-11 added	\$ 45 per MMBTU	
Puilding Envelope	Roof and Wall Insulation R-19 added	\$ 45 per MMBTU	
	Roof and Wall Insulation R-338 added	\$ 45 per MMBTU	
	Window Replacement	\$ 45 per MMBTU	
Air Sealing	This package will include repair and weather sealing of louver vents, exterior doors, common area windows, and the general perimeter of the basement.	\$ 4 per therm	
Steam Traps All Other (Total traps <1000 traps)	Covers the repair or replacement of steam traps in low pressure heating systems (<15 psig)	\$ 50 per Steam Trap	
Steam Traps Common Area (Total traps <1000 traps)		\$ 150 per Steam Trap	
Linear Pipe Insulation	< 2" pipe diameter	\$ 4 per linear ft	
	> 2" pipe diameter	\$ 8 per linear ft	

Table 2.6.B: Eligible Gas Multifamil	y measures and the associated NPA Adder incentive
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NPA Gas Custom Adder Incentives				
Installed Measure	Incentive Detail	NPA Bonus Incentive \$		
Steam Traps (Total traps >1000 traps	Covers the repair or replacement of steam traps in low pressure heating systems (<15 psig)	\$ 4 per therm		
Non-Simple Controls and Other	Other energy efficiency upgrades not listed in this document may be eligible for custom incentives. Final custom measure eligibility, savings and incentives are determined at the sole discretion of the Program Administrator. Custom projects include but are not limited to: boiler economizers, linkageless burner controls, and heat pump boiler pre-heaters.	\$ 4 per therm		

3 Program Pathways

The Con Edison Multifamily Energy Efficiency Program (MFEEP) offers incentives for installing energy-efficient electric and gas equipment and technologies. Energy efficiency can help improve the bottom line by reducing energy use and maintenance costs while increasing operating efficiencies.

There are two pathways for both gas and electric customers participating in the 2024 program year: the prescriptive path and the custom path. To get started, determine your project's eligibility and path, complete a short application, and speak with one of our dedicated Energy Advisors or Con Edison's implementation contractor, Willdan, with any questions about your energy-efficiency project. Once the project is approved and completed, the incentive is mailed to the customer, or directly to the Participating Contractor, with customer approval.

3.1 Program Process

1. CHECK PROJECT AND EQUIPMENT ELIGIBILITY

• All installed equipment must meet or exceed specifications described in this Program Manual.

2. SUBMIT AN APPLICATION PACKAGE

- An application package is required for all custom and prescriptive projects and includes the items listed below. When submitting your application package, please label these documents as shown below:
 - Completed program application. Applicant name must match name of Con Edison account holder. Filename: Owner's Agreement
 - Customer Proposal/Statement of Work. Filename: Statement of Work (Applicable for Custom Measure Applications)
 - Common Area Tool (if measure is listed). Filename: Electric Measure Tool or Gas Measure
 Tool
 - **Cut sheets.** Specific model(s) of the measure being used in the project must be highlighted on the cut sheets before submission. Filename: Cutsheet [*Make Model #*]
 - Any other measure specific documentation listed in this program manual or in guidance documents specific to the technology (custom projects) or requested to confirm savings calculations. Filename: [Specify Document Type based on measure-specific requirements]
 - Form W-9 of the incentive recipient. Form W-9 must be latest version available on IRS website. Form must be signed and dated in the program year. Filename: W9 Form
- Participating Contractors: Upload application package to SMART
- Customers: Email applications to your Energy Advisor or to ConEdMultifamily@Willdan.com
 with a subject line of New Multifamily Application [Applicant Name].

3. PRE-INSPECTION & INTIAL ENGINEERING REVIEW

• Willdan will pre-inspect the existing condition of your site. In order to be eligible for incentives work may not begin until this pre-inspection has been completed and Willdan has sent a Preliminary Incentive Offer Letter /Notice to Proceed.

4. PRELIMINARY INCENTIVE OFFER LETTER / NOTICE TO PROCEED

- After the pre-inspection, your project will be reviewed, and you will receive a Notice to Proceed.
 - i. **Prescriptive projects** you will receive an email from Willdan stating estimated project savings and incentives. This email serves as the Notice to Proceed and you may proceed with installation.
 - ii. **Custom projects** you will receive a Preliminary Incentive Offer Letter which includes an updated incentive offer, indicating project work may begin. The Preliminary Incentive Offer Letter must be signed by the Customer and Participating Contractor and returned to Willdan. Once returned signed you may proceed with installation.

5. INSTALL EQUIPMENT

The Notice to Proceed allows 90 days to complete your project and submit your completion paperwork. Contact the program team if you think your project will require more than 90 days. The program must be notified in writing in order to approve the extension of this deadline.

6. SUBMIT COMPLETION PAPERWORK

- Submit your completion paperwork as soon as your project is completed. Completion paperwork should only be submitted after 100% of incentivized measures are installed. The completion paperwork includes:
 - Statement of Completion signed by Customer and Participating Contractor. Only costs directly related to incentivized measures should be included on the completion form.
 - For prescriptive projects, final invoices must be made available upon request. For custom projects, all invoices must be submitted.
 - All itemized final invoices and receipts must be submitted and broken out by product.
 - See the "Project Costs and Invoicing Requirements" section of this manual for invoicing requirements.

7. POST INSPECTION

Con Edison and/or Willdan will inspect the new condition of the site to determine eligible incentives.

8. RECEIVE INCENTIVE PAYMENT

Once your energy savings and incentives are finalized by the Program team, an incentive check will be mailed to you or your Participating Contractor.

Please reference <u>Section 5</u> for current information on eligible measures and requirements.

3.2 Incentive Payments

Prescriptive and custom incentives cannot exceed the customer's project cost for eligible measure(s) listed in this Program Manual. Material and Labor costs submitted are subject to Con Edison review and may be capped for incentive calculations at our sole discretion. See additional invoicing requirements in the "Project Costs and Invoicing Requirements" section of this manual. The Form W-9 submitted must match the name of the payee as indicated on the program application. Participating Contractors on probation may not be allowed to accept incentive payments on behalf of the customer. Participating contractors who are in good standing with the program will be allowed to accept incentive payments on behalf of the customer on behalf of the customer with prior written approval by the customer.

3.3 Tax Liability

Incentives may be taxable for most taxpayers. If the incentive is more than \$600, it will be reported to the IRS and the customer will be provided with an IRS Form 1099, unless the customer has submitted documentation that they are a tax-exempt entity as defined by the IRS. Con Edison is not responsible for any tax liability that may be imposed on any customer as a result of the payment of program incentives. All customers must supply their Federal Tax Identification number to Con Edison in order to receive a program incentive. Please consult with your tax professional for information on the tax treatment of the incentives.

3.4 Incentive Structure

Common Area Lighting				
Installed Measure	Incentive Detail	MFEEP Incentive \$		
LED Lighting (NWS eligible)	Tube Lamps Screw-in Lamps Interior Fixtures	\$8 per lamp \$5 per lamp \$45 per fixture		
Exterior New Fixture (NWS eligible)	HID Less than or equal to 100 W HID Over 100 W	\$8 per sign \$80 per fixture \$150 per fixture		
Lighting Controls	Based Lamp Bi-Level fixtures - Stairwell, corridor,	\$70 per fixture		
(ITTO Eligible)	Bi-level fixtures - parking lot	\$60 per fixture		
Miscellaneous (NWS eligible)	Relamp and reballasting, retrofit kits	50% of fixture replacement incentive		

Table 3.4.1.A: Electric Incentives

Common Area Lighting incentives are capped at 85% of the customer's project cost.

Electric Custom Measures			
Installed Measure	Incentive Detail	MFEEP Incentive \$	
Unitary Controls	Any non-central building system control projects (e.g., Wi-Fi thermostats connected to an in-unit PTAC or PTHP) may be submitted as a custom project	\$0.16 per kWh	
Custom Other	Other non-lighting efficiency upgrades not listed in this document may be eligible for performance- based custom incentive	\$0.35 per kWh	

Electric Custom Measure incentives are capped at 70% of the customer's project cost.

Installed Measure	Incentive Detail	MFEEP Incentive \$
AC - Central Unit Replacement		\$0.40 per kWh
Packaged Terminal Air Conditioner (NWS eligible)		\$0.40 per kWh
Elevator Modernization (NWS eligible)		\$0.25 per kWh
VFD	 Prescriptive VFD applications include exhaust fan, make-up air fan, return fan, supply fan, water loop heat pump circulating pump, and boiler feed water pump Other VFD applications will need to be submitted as a custom project 	\$0.19 per kWh
Blower Fan - with EC Motor for Furnace Distribution (NWS eligible)		\$0.35 per kWh
Circulator Pump - with EC Motor for Hydronic Distribution		\$0.35 per kWh

HVAC measure incentives are capped at 70% of the customer's project cost.

Table 3.4.1.B: Gas Incentives

Common Area					
Installed Measure Incentive Detail		MFEEP Incentive \$			
Hot Water Boilers Minimum Boiler Efficiency: Et or AFUE of 85% for boilers < 2,500 kBtu/h or 88% Ec for boilers > 2,500 kBtu/h		\$5 per MBH			
Condensing Boilers	Minimum Boiler Efficiency: Et or AFUE boilers < 2,500 kBtu/h or 93% Ec for b kBtu/h	E of 90% for poilers > 2,500	\$7 per MBH		
Steam Boilers Minimum Boiler Efficiency: Et or AFUE 82%		\$4 per MBH			
Storage Tank Water Heaters	Storage tank volume > 70 gallons and Et>90%		\$4,000 per tank		
Energy Management	Boiler control system with multiple temperature sensors for steam or water lines, flue gas, and indoor air,	# of Units			
Systems		10-19	\$2,000		

	and remote system monitoring capability	20-40	\$3,500
	(250+ units may apply for the	41-99	\$7,000
		100-249	\$10,000
Linear Pipe			'
Insulation	< 2" pipe diameter		\$5 per linear ft
	> 2" pipe diameter	\$9 per linear ft	
Building Envelope	Roof insulation		\$3/sq ft
	Wall insulation and window replacement		\$240 per MMBtu
Steam Traps	Covers the repair or replacement of steam traps in low pressure heating systems (<15 psig)		Common areas - \$200 per failed open trap
	Incentive includes credit towards completing the program required survey		All other radiators - \$75 per failed open trap
			Projects that are replacing 1,000+ traps will follow the custom pathway and will be subject to custom incentive rate.
Boiler Clean and Tune	This measure covers an advanced clean & tune procedure performed on a steam or hot water boiler (routine seasonal boiler tune-ups will not be incentivized)		\$500 for 1 boiler \$400 for every additional boiler

Common Area Gas incentives are capped at 85% of the customer's project cost.

Packaged Measures				
Installed Measure	Incentive Detail	MFEEP Incentive \$		
Air Sealing	This package will include repair and weather sealing of louver vents, exterior doors, common area windows, and the general perimeter of the basement.	\$3 per therm		
2-Pipe Steam Retro- Commissioning	 Treats heating imbalance issues by designing and installing: a) Air vents on all main pipes (atmospheric systems) b) Thermostatic radiator valves and orifice plates on every radiator c) Clean and tune up of boiler and burner, including firing rate, draft adjustment, water cleaning, electronic pressure control, and combustion testing d) Steam trap repair throughout common areas 	\$4 per therm		

Packaged Measure incentives are capped at 70% of the customer's project costs.

Gas Custom Measures				
Installed Measure	Incentive Detail	MFEEP Incentive \$		
Unitary Controls	Simple control equipment installations that do not allow for multiple data inputs (i.e. decision made on a single data point, is manually programmed/operated/or scheduled, or does not allow for real-time monitoring and control through a software package or building communications protocol). This includes Wi-Fi thermostats, thermostatic radiator valves, building management systems, and ventilation controls.	\$1 per therm		
Non-Simple Controls and Other	Other energy efficiency upgrades not listed in this document may be eligible for custom incentives. Final custom measure eligibility, savings and incentives are determined at the sole discretion of the Program Administrator. Custom projects include but are not limited to: boiler economizers, linkageless burner controls, and heat pump boiler pre- heaters.	\$3 per therm		

Gas Custom incentives are capped at 70% of the customer's project costs.

Direct Install			
Installed Measure	MFEEPIncentive \$		
Faucet Aerators (in-unit)	Free		
Showerheads (in-unit)	Free		

Table 3.4.1.C: Secondary Steam and Oil Incentives

Secondary Steam and Oil Incentives - Custom				
Installed Measure Secondary Steam Incentive \$ Oil Incentive \$				
Building Envelope	\$120/Mlbs	\$3.50/gal		
Building Automation System - Controls	\$80/Mlbs	\$3.50/gal		

Secondary Steam and Oil incentives are capped at 70% of the customer's project costs.

Refer to section 5.8.5 for documentation and technical requirements

3.5 Measurement & Verification (M&V)

Measurement and Verification (M&V) may be required for projects in which the technology or project has a high degree of savings uncertainty, is an unknown or unique application, or is comprised of a complex group of measures. The overall intent of M&V is to mitigate risk to the program by reporting more accurate savings through metering and data collection. It involves a more robust approach to measuring the energy conservation measure and its application. Project-specific M&V is triggered when a project meets any one of the following criteria:

- Projects with high incentives
- Projects proposing to install new technologies
- Unique, complex, or risky applications as determined by the Con Edison team

The M&V approach will utilize various methods to obtain insights into energy conservation measures (ECMs), assess their application as well as their impact on savings. The International Performance Measurement and Verification Protocol (IPMVP) provide options for assessment of the C&I program M&V projects:

- Option A, Retrofit-Isolation: Key Parameter Measurement
 - Direct metering of a single key parameter that defines the energy consumption in both baseline (pre-install) and proposed (post-install) cases.
- Option B, Retrofit-Isolation: All Parameter Measurement
 - Direct metering of a multiple parameters that define the energy consumption in both baseline (pre-install) and proposed (post-install) cases.
- Option C, Whole Facility
 - Utility level measurement of whole facility consumption and demand. Typically requires 1 year of post-installation utility meter data after EEM is installed.
- Option D, Calibrated Simulation
 - Simulation of energy consumption and demand with utility billing data. Requires 1 year of postinstallation utility meter data after EEM is installed.

The standard M&V process entails a minimum of 3 different reviews that take place throughout a project's lifecycle including:

- I. **M&V Plan:** This M&V plan outlines the necessary steps to perform the M&V on a project and includes a timeline for all milestones, the equipment necessary to acquire all data, a contingency plan if data is incorrect or unavailable, and other project specific material.
- II. Pre-Installation M&V Report: The purpose of the Pre-Installation Site Visit and Pre-Installation M&V Report is to verify the existing conditions of the site, conduct interviews with site personnel on equipment and schedules, and determine what metering or measuring equipment will be necessary to capture all relevant energy data. In cases where logging and metering equipment have been deployed to determine the project baseline, a second site visit at the end of the baseline measuring period may be needed to remove the equipment. To adequately verify baseline conditions, project construction must not begin until after the associated M&V pre-installation site visit and data collection are completed.
- III. Post-Installation Final M&V Report: Once the proposed equipment is installed, Con Edison will perform a post-installation site visit to verify equipment installation, ensure all phases of the project are complete and active, and collect any energy use data for the site. In certain cases, logging and metering equipment may be deployed to capture the post- installation energy use data. If metering is deployed, a second site visit will be performed at the end of the post-installation measuring period to remove the metering equipment.

Additional reviews maybe required by ConEdison depending on project phasing, install timelines, or other measure or install specific items that may occur during the review or install period.

4 Inspection Guidelines

4.1 Inspection requirements

All projects require pre- and post-inspections.

Reference the Inspection Checklist for measure-specific inspection criteria.

The Program Administrator and/or its IC must have reasonable access to the customer's facility for preand post-inspection of the installed energy-efficient measures. Pre-inspections must be completed before starting any installations to be eligible for incentives. In the case of a failed inspection, issues must be remedied by the contractor within a timeframe that is agreed upon by the contractor and the Program Administrator.

Both pre- and post-inspection are subject to a 25% sampling rate if the measure(s) installed included multiple pieces of equipment as part of the scope (examples include: LED lighting, in-unit Steam Traps).

4.2 On-site & Virtual Inspections

Program Administrator will determine whether inspections are conducted on-site or virtually. In general, virtual pre- and post-inspections are acceptable. Acceptable forms of a virtual inspection are as follows:

Live video call walkthrough with the contractors or energy providers and the inspector; inspector takes screenshots and/or notes to document findings

Date and time-stamped pictures and/or video recordings that clearly existing equipment to be replaced (in case of pre-inspection) or the new energy efficient equipment (in case of post-inspection)

5 Eligible Measures and Technical Requirements

The following guidelines outline the requirements for energy efficiency measures. All energy efficiency measures shall comply with these requirements where applicable.

All references to ECCC NYS are for the most recent version of the Energy Conservation Construction Code of New York State.

Measures not listed in these guidelines may still be eligible for incentives. Customers should submit these measures to the IC for evaluation. These measures may be subject to additional review and additional implementation requirements. Documentation submission requirements in Tables 5.1-5.9 list documentation that must be submitted prior to the pre-inspection and cut sheets must be submitted for all measures.

5.1 Common Area Lighting

	Technical Measure Guidelines				
Measure	Existing Equipment	Documentation Submission Requirements	Proposed Equipment and Installation Requirements		
Lamps and Fixtures (NWS eligible)	 No existing LEDs Eligible existing fixtures include incandescent and fluorescent luminaires Interior existing HID fixtures are not eligible Existing LED's to Bi-level fixtures are not eligible Existing fixtures with missing lamps will not be incentivized which includes but not limited to Linear, Non-Linear fixtures and lamps. 	 An inventory of existing fixtures must be provided, including: Documentation of existing fixture wattages supported by documentation, or program protocol values Total hours of operation for the building and each area, as applicable 	 LED Lamps, including all lamps covered by ENERGY STAR and/or DLC (i.e., A, PAR, MR, PL, Globe, and Candelabra Type Lamps) Must be permanently mounted or hardwired Minimum 3-year warranty LED fixtures and lamps listed under DLC must meet the Technical Requirements of the latest version of the Qualified Product List 		

Table 5.1: Eligible Measures and Technical Requirements - Lighting

LED fixtures and lamps listed under DLC must meet the Technical Requirements of the latest version of the Qualified Product List	 LED Tubes, Including T8 Type Lamps that Are 'Plug-and-Play' or 'Remote Driver' Only ENERGY STAR® or DLC-certified Must comply with all UL 1598C retrofitted fixture standards if installing using a "remote driver" or "ballast bypass" type lamp Must have a minimum L70 rating of 50,000 hrs. Installation of a "Ballast bypass" or "remote driver" type lamps must be performed by a licensed electrician and the ballast must be removed and disposed of All Type-B/ballast bypass lamps should be installed per the manufacturer's guidelines and comply with NYC Local Law requirements Must be permanently mounted or hardwired Minimum 3-year warranty
	 LED Fixtures and Retrofit Kits ENERGY STAR® or DLC - certified and UL-labeled New fixtures consist of a full housing and lamp module that replaces existing luminaire; retrofit kits consist of partial housing and lamp module that inserts into existing luminaire Interior fixtures and retrofits cover Linear Troffers, Recessed Downlights, Circular Surface Mounts, Wall Sconces, etc. Exterior fixtures and retrofits cover Wall Packs, Flood Lights, Canopy, Garage, Pole-Tops, etc. Must be permanently mounted or hardwired

			 Minimum 3-year warranty
Exit Signs (NWS eligible)	 No existing LEDs Eligible existing fixtures include incandescent or CFL exit sign 	 An inventory of existing fixtures must be provided, including: Documentation of existing fixture wattages supported by documentation, or program protocol value 	 LED Exit Signs UL- listed Must be less than 5 watts per sign Must be permanently mounted or hardwired
Re-Lamp Reballast (NWS eligible)	 No existing LEDs Eligible existing fixtures include incandescent and fluorescent luminaires Existing HID fixtures are not eligible 	 An inventory of existing fixtures must be provided, including: Documentation of existing fixture wattages supported by documentation, or program protocol value Total hours of operation for the building and each area, as applicable. 	 Re-Lamp Reballast New ballast must be electronic; new remote drivers can be used in place of a new ballast New lamps must be LED technology that conforms with all LED lamp measure requirements Includes conversions to tandem linear LED fixtures Must be done on a permanently mounted or hardwired fixture All interior and exterior fixture types are eligible except for Circular Surface-Mounts, Recessed Downlights, and Wall Sconces Care should be exercised to ensure that lamp and ballast/driver are compatible as per manufacturer

5.2 Lighting Controls

	Technical Measure Guidelines			
Measure	Existing Equipment	Documentation Requirements	Proposed Equipment and Installation Requirements	
Lighting Controls <i>(NWS eligible)</i>	 No existing automated lighting controls For Bi-Level Lighting Controls: Eligible fixture types are LEDs only An inventory of existing fixtures must be provided, including: Documentation of existing fixture wattages supported by documentation, or program protocol value Total hours of operation for the building and each area, as applicable. 		 Occupancy Sensor Control UL-listed sensor Must be from a manufacturer whose components are listed on the DLC Network Lighting Controls QPL Technologies accepted include, but are not limited to, passive infrared, ultrasonic, and/or high frequency Controlled fixtures must use programmable start ballasts Cannot be installed in highly trafficked areas (e.g., lobbies, corridors, and stairwells) Must be permanently mounted or hardwired Fixtures plus controls must be installed (controls only will not be eligible). Bi-Level Lighting Control Must be a complete (lamp + ballast) system as designed by the 	
			 manufacturer Must be from a manufacturer whose components are listed as DLC Network Lighting Controls QPL Must have UL label Ballasts must be electronic and programmable start type if lamp(s) are being on/off controlled Fixture cannot exceed 30% of full wattage during unoccupied periods Must be code compliant with fail-safe features Must be permanently mounted or hardwired Work must comply with all applicable codes and regulations Bi Level Lighting is only authorized in stairwells and corridors of the common areas, and parking garages (any location in the basement is prohibited <u>except areas used for ingress/egress or frequently visited by occupants</u>). 	

Table 5.2: Eligible Measures and Technical Requirements – Lighting Controls

5.3 Electric HVAC Measures

Table 5.3: Eligible Measures and Technical Requirements –Electric HVAC Measures

Technical Measure Guidelines			
Measure	Existing Equipment	Documentation Requirements	Proposed Equipment and Installation Requirements
Air Conditioner – Central Unit Replacement (CAC)	 Existing unit of lower efficiency than proposed equipment 	 Facility operation hours, facility type, description of existing load profile, and AHRI certificate must be provided 	 Replacement equipment efficiency must exceed baseline efficiency compared to existing equipment and Energy Conservation Construction Code of New York State (ECCCNYS) to qualify for eligibility Replacements shall be one-for-one regarding capacity, with a tolerance of ±10%
Packaged Terminal Air Conditioner (PTAC) (NWS eligible)	 Existing unit of lower efficiency than proposed equipment 	 Facility operation hours, facility type, description of existing load profile, and AHRI certificate (if applicable) must be provided 	 Replacement equipment efficiency must exceed ECCCNYS minimum efficiency by 10% or more. Replacements shall be one-for-one regarding capacity, with a tolerance of ±10%
Variable Frequency Drive (VFD)	• No existing VFD	 Facility operation hours, facility type, and description of existing load profile must be provided 	 Must be tied to the control system and operate at variable frequencies as determined by the control system Prescriptive VFD applications include exhaust fan, make-up air fan, return fan, supply fan, water loop heat pump circulating pump, and boiler feed water pump Other VFD applications will need to be submitted as a custom project The following applications are ineligible: VFDs installed in fixed - speed applications Installs that include entire pumping or ventilation system upgrades or replacements
Blower Fan – with Electronically Commutated (EC) Motor for Furnace Distribution (NWS eligible)	 Existing unit of lower efficiency 	 Facility operation hours, facility type, and description of existing load profile must be provided Projects with motors operating 24/7 in both the baseline and proposed cases should use the Con Edison EC Motor Tool to calculate savings and incentive. Projects including savings from a decrease in hours of 	 Retrofit of direct-drive Permanent Split Capacitor (PSC) motors with the installation of Electronically Commutated (EC) motors on fuel-fired furnace distribution system supply fans in residential applications

		operation (e.g., via new controls) must use a custom calculation.	
Circulator Pump – with Electronically Commutated (EC) Motor for Hydronic Distribution	• Existing Unit of lower efficiency	 Facility operation hours, facility type, and description of existing load profile must be provided Projects with motors operating 24/7 in both the baseline and proposed cases should use the Con Edison EC Motor Tool to calculate savings and incentive. Projects including savings from a decrease in hours of operation (e.g., via new controls) must use a custom calculation. 	 Replacement of standard efficiency permanent split capacitor (PSC) motor circulator pumps with electronically commutated (EC) motor circulator pumps in hydronic heating and cooling distribution systems

5.4 Elevator Modernization

Table 5.4: Eligible Measures and Technical Requirements – Elevator Modernization

	Technical Measure Guidelines				
Measure	Existing Equipment	Documentation Requirements	Proposed Equipment and Installation Requirements		
Elevator Modernization <i>(NWS eligible)</i>	 Retrofit of existing elevators only Existing Unit of lower efficiency 	 Motor Nameplate and ID number Generator nameplate (if part of M-G set) Motor transmission system (geared or gearless) Motor drive make and model Regenerative braking drive and/or braking resistors Elevator nameplate (make, model, serial number, car capacity, rated top velocity, counterbalance weight) Elevator number/ID Elevator schedule 	 Elevator drive must be upgraded from lower efficiency to higher efficiency. Elevator drives are listed below from lowest efficiency to highest efficiency: Motor-Generator (M-G) Set Silicon Controlled Rectifier (SCR) 6 Silicon Controlled Rectifier (SCR) 12 Pulse Width Modulation (PWM) Drives Variable Voltage Variable Frequency (VVVF) drives The drives may either be regenerative or non-regenerative 		

5.5 Common Area Gas Measures

 Table 5.5: Eligible Measures and Technical Requirements – Common Area Gas Measures

		Technical Measure Guidelines	
Measure	Existing Equipment	Documentation Requirements	Proposed Equipment and Installation Requirements
Boiler Replacement	• Existing unit of lower efficiency	 Facility operation hours and facility type Oil to Gas (OTG) conversions: Submit Application with utility electric account Provide utility confirmation for gas conversion (e.g., new gas account #) Provide one year of fuel (oil) bills Provide cut-sheets of new boiler(s) Provide photos of existing boiler(s) Provide proposed installation date Conversion from Fuel Oil No. 2 and 4 are only 	 Hydronic boiler Minimum Boiler Efficiency: Et or AFUE of 85% for boilers ≤ 2,500 kBtu/h or 88% Ec for boilers > 2,500 kBtu/h Condensing boiler Minimum Boiler Efficiency: Et or AFUE of 90% for boilers ≤ 2,500 kBtu/h or 93% Ec for boilers > 2,500 kBtu/h Steam boiler Minimum Boiler Efficiency: Et or AFUE 82% Annual Fuel Utilization Efficiency (AFUE) and thermal efficiency (Et) ratings must be sourced from the AHRI directory; if data is not available, only then may the manufacturer's rating may be used Replacements shall be one-for-one regarding capacity, with a tolerance of ±10% Projects with multiple boilers in a lead lag configuration will be incentivized for one boiler replacement. (Lead lag boiler is defined where the secondary boilers operate only to meet the demand during peak heating season. Multiple boilers with cyclic operation or simultaneous operations at a low firing rate will be considered as a lead lag operation)
Domestic Hot Water Heater Replacement	• Existing Water Heater that is less efficient than the proposed equipment	 AHRI Certificate, if applicable Facility operation hours and facility type 	 Proposed equipment must be more efficient than existing equipment Proposed water heater must comply with applicable Energy Star requirements Proposed storage tank volumeequal to or greater than 40 gallons and Et >90%
Energy Management Systems (EMS)	 No existing EMS Existing Boiler Controls with NO internet connection capability Not applicable for buildings with PTAC units or any in-unit thermostat control 	 Provide documentation to confirm building unit count 	 Meets "EMS Controls" definition: Autonomous or rule-based decision making (i.e., not a user-entered program or schedule) Multiple data inputs (i.e., does not make decisions off a single data point) Real-time digital data

			 Real-time monitoring and control through a software package or by providing data through a building protocol (e.g., IP/BACnet/Modbus/Zigbee) Must allow remote access or web-based monitoring (monitoring service agreement is not required) Install minimum of 25% apartment sensors, on a variety of floors, and including one in the apartment at the end of each steam line (for steam systems) Must include temperature sensors for the stack, domestic hot water supply, outdoor weather, heating water supply or return, and condensate (steam) Must provide system training and manual to building operating staff Must provide a screen shot showing all control components in good operation Must allow multiple boiler systems to have staging capability Provide verification of multiple boilers run times, (i.e., lead/lag) Product certification from an OSHA approved Nationally Recognized Testing Laboratory (NRTL) (e.g., UL, ETL, CSA, IAPMO) Projects with multiple boilers in a lead lag configuration will be incentivized for an EMS system on the primary boiler only. (Lead lag boiler is defined where the secondary boilers operate only to meet the demand during peak heating season. Multiple boilers with cyclic operation or simultaneous operation)
Pipe Insulation	 Existing pipe must be bare (the replacement of existing pipe insulation with new pipe insulation is ineligible) Existing pipe must be located in an unconditioned space Measure is intended for pipe insulation in common areas 	 Boiler and /or water heater nameplate(s) and performance datasheets. Other heating/cooling equipment datasheets as relevant to the conditioned fluid flows Pipe Insulation Survey must cover 100% of the heating distribution pipes (supply and return) in the common areas 	 All piping in mechanical room and accessible piping in unconditioned spaces shall be insulated Must meet minimum thickness requirements specified in the most recent version of the ECCCNYS Measure covers the installation of fiberglass, rigid foam, or cellular glass pipe insulation on uninsulated copper or steel piping within hot water or steam space heating distributions systems and DHW distribution systems The following applications must go through the custom process for non-comprehensive projects: Insulating jackets for boilers, tanks, fittings, or other equipment Pipe insulation on risers that go through tenant apartments Any pipes over 8 inches diameter

Steam Traps	 Existing failed open steam traps in low pressure heating systems (< 15 psig) 	 Survey involving collecting basic information on the steam boiler plant and steam traps; in addition to using an ultrasonic meter to confirm whether each trap is working, failed open, or failed closed Must perform a baseline survey of the steam traps that are intended to be repaired when the traps are in use for confirmation of proper function Survey must be performed when the heat is on Surveyor must place a numbered tag on each common area trap and document this number in the Program Administrator- provided survey tool. The tags must remain in place until project close-out. All common area traps in a building must be tested. Projects with more than 60 common area traps may elect to test a minimum of 60 common area traps and apply the failure rate to the rest of the common area trap population. All in-unit sampling procedures apply to the common area population if sampling is pursued. For all apartment radiator traps within the building provide apartment number, room description, and location in the Program Administrator-provided survey tool. Trap location information will be used by Willdan to perform apartment trap testing. 	 All failed open and failed closed common area traps must be repaired or replaced. If sampling is implemented for common area traps, all untested traps must be repaired or replaced. All apartment traps must be repaired or replaced regardless of testing status. Repaired traps must include a new cap to indicate work was done on the trap. Upon completion of all trap repairs and/or replacements, the contractor must submit an updated copy of the survey tool with any pertinent scope changes and comments Upon receipt of all completion documents, the repaired steam traps will be inspected by Willdan to confirm proper installation of the measure. Common area trap incentive amounts will be granted in accordance with the number of traps found to be failed in the pre-installation inspection. Incentives will not be granted for traps that are repaired but inoperable regardless of the cause of failure. Apartment trap incentives will be granted based on the failure rate within the pre-installation inspection sample, multiplied across the entire apartment trap population. Incentives will be further reduced in the same fashion should failures persist in the post-installation inspection regardless of the cause of failure.
Boiler Clean and Tune	• Hot water or steam boiler	 Facility operation hours, facility type A picture of nameplate with efficiency or a submittal/email from the manufacturer stating the efficiency Pre and post combustion test results must be submitted along with completion documents Must submit notification of the scheduled service date and time no less than three (3) days in advance 	 Boiler Clean and Tune measure must be performed on each heating boiler within the central plant by a contractor with a master plumbers license and work experience in burner service This measure only covers an advanced clean and tune procedure performed on a steam or hot water boiler Routine seasonal boiler tune-ups will not be incentivized Program may send out an inspector to observe the work The advanced boiler clean and tune procedure involves the following items:

			 Perform a 'pre' steady state combustion test first Open the boiler's water chamber, skim oil and debris from the water surface, pour in detergent solution, complete full drain, and refill along with chemical treatment Tune burner to manufacturer's specifications to maximize its turndown ratio measure and adjust the gas supply pressure to reduce the low firing ratio the manufacturer's specified minimum and increase the high firing rate to the peak heating load level for the building Install a high-fire limit potentiometer and ensure burner mode switch is left in AUTO Perform a 'post' steady state combustion test
Master Air Venting	 This measure applies to one- or two-pipe steam distribution systems Co- or Pre-requisite measures: Pipe Insulation and Boiler Clean and Tune must be installed in addition to this measure in order to qualify for the program Can show proof of Boiler Clean and Tune through combustion analysis print out; Will determine on a case by case basis if the building fulfilled Boiler Clean and Tune and Pipe Insulation requirements prior to application to the program 	 Must perform a baseline survey of the steam heating distribution system Survey involves collecting basic information on the steam boiler plant and steam supply mains and risers, including any existing air vents Surveyor must prepare a layout sketch of the steam supply mains in the basement, including mark-offs for the new air vents to be installed Upon completion of all air vent installations, must submit completed survey with information on upgrades for master air venting, and pipe layout sketch with any pertinent scope changes and comments 	 Installer must remove any existing air vents that are either broken, incorrectly sized, or in the wrong location and cap the hole Air vents must be installed in the vertical direction and at least 15" away from any elbows; trees should be used whenever installing multiple vents in the same location For proper distribution balancing air vents should be sized and installed at the ends of 100% of the steam supply mains and risers If riser tops are inaccessible the appropriate air vent should either be installed on the riser within the 2nd-to-top floor apartment or on the nearest radiator on its inlet side
Orifice Plate	 This measure applies to all radiators within a 2-pipe steam distribution system Co- or Pre-requisite measure: Boiler Clean and Tune and TRVs must be installed in addition to this measure in order to qualify for the program 	 Must perform a baseline survey of the steam heating distribution system Survey involves collecting basic information on the steam boiler plant and a detailed "heat-load vs. radiator EDR" analysis on a sample of apartments; the apartment sample must minimally include one (1) apartment per each building line 	 Heat-Load vs. Radiator EDR analysis should cover all the rooms and radiators in the apartment being sampled Orifice plates must be sized for each size of radiator; the reduced heat output of any radiator must not fall below 100% of the heat load of the room it serves Orifice plates must be installed for at least 70% of all apartment and common-area radiators, not including those on the top floor (top floor radiators cannot be restricted from venting air through the distribution system)

			 Upon completion of installations, must submit for review a checklist showing all radiators in the building and the orifice plates installed
Thermostatic Radiator Valves (TRVs)	 This measure applies to all radiators within a 2-pipe steam distribution system Co- or Pre-requisite measure: Boiler Clean and Tune and Orifice Plates must be installed in addition to this measure in order to qualify for the program This measure will only be accepted in 2PS projects which require M&V 	 Must perform a baseline survey of the steam heating distribution system Survey involves collecting basic information on the steam boiler plant and a detailed "heat-load vs. radiator EDR" analysis on a sample of apartments; the apartment sample must minimally include one (1) apartment per each building line 	 TRVs must be installed for at least 70% of all apartment radiators and 100% of all common-area radiators Use a remote temperature sensing TRV on any enclosed radiators Upon completion of installations, must submit a checklist showing all radiators in the building and the orifice plate and TRV that was installed

5.6 In-Unit Measures

Table 5.6: Eligible Measures and Technical Requirements – In-Unit Measures

	Technical Measure Guidelines				
Measure	Existing Equipment	Documentation Requirements	Proposed Equipment and Installation Requirements		
LEDs (NWS eligible)	• No existing LEDs	 An inventory of existing fixtures must be provided, including: Documentation of existing fixture wattages supported by documentation, or program protocol values 	 Downstate LED A LAMPS ENERGY STAR® Minimum 3-year warranty Must be permanently mounted or hardwired All in-unit LEDs must be installed by subcontractors, and they are required to remove the old equipment for an inspection (bag and tag required for downstate). Upstate LED LAMPS ENERGY STAR® Minimum 3-year warranty All in-unit LEDs must be installed by subcontractors, and they are required for downstate). 		
Faucet Aerators	• Existing faucet aerators must be rated at a minimum flow rate of 2.2 GPM kitchen, 1.5 GPM bathroom.	 Existing faucet aerators must be "bagged and tagged" for inspection 	 Up to four per unit <=1.5 GPM installed in kitchen <=1 GPM installed in bathroom New bathroom aerators must be certified as EPA WaterSense 		
Low-Flow Showerhead	• Existing showerhead must be rated at a minimum flow rate of 2.0 GPM	 Existing showerhead must be "bagged and tagged" for inspection 	 Swivel- or wand-type showerhead New showerhead must have a flow rate < 2.0 GPM New showerhead must be certified as EPA WaterSense 		

5.7 Building Envelope Measures

Table 5.7: Eligible Measures and Technical Requirements – Building Envelope Measures*

*Building envelope measures must be associated with electric or gas savings

Technical Measure Guideli			
Measure	Existing Equipment	Documentation Requirements	Proposed Equipment and Installation Requirements
Roof and Wall Insulation	 Pre-requisite: attic floor/top floor ceiling must be air sealed before attic/roof insulation is added Pre-requisite: No existing insulation 	 Plans for and proof of addressing thermal bypasses in roofs Plans for and proof of addressing thermal bridging at the following points: slab edges, bulkheads, rim joists, and roof- to-wall connections. Any area with existing insulation must be documented Must submit HVAC equipment datasheets and nameplate photos Must submit building plans/layout detailing areas to be retrofitted Must submit photos of the completed work that clearly shows the depth of insulation installed Photos showing that the attic floor/top floor ceiling was airsealed before roof/attic insulation was installed Customer invoice required 	 Must meet ECCCNYS code minimums and must comply with applicable local code requirements regarding insulation and vapor retardants Minimum 30 R-value added or minimum R value required by ECCCNYS code or applicable local code requirements, whichever is higher. Cavity insulation must be installed without compression or slumping An interim inspection (prior to area being enclosed) is required when insulated area will be inaccessible after completion Roof Insulation saving will be capped at 15% of annual gas consumption All precautions must be taken by the installer to assess the risk of and mitigate moisture. Where applicable, proper ventilation techniques must be used alongside the insulation installation.

Window Replacement	This measure is only applicable to windows that serve as a barrier between conditioned spaces and outside air.	 HVAC equipment datasheets and nameplate photos Building plans/layout detailing areas to be retrofitted Survey of quantities, sizes, and locations of the existing and proposed windows. Energy performance specifications (window type, frame type, U-value, gas fill, SHGC, low-e type, and location) for proposed windows. NFRC or other relevant rating agency's label(s). 	 In all instances, new equipment must perform better than existing and must comply with or exceed ECCCNYS C402.4. For NYC: New equipment must perform better than existing and must comply with or exceed NYCECC C402.4. For Low-Rise (up to 3 floors) buildings, specified windows shall be ENERGY STAR® labeled. If ENERGY STAR® labeled windows are not available, the specified windows must meet or exceed the ENERGY STAR® requirements for the building's location for U-value and Solar Heat Gain Coefficient (SHGC). For High-Rise (over 3 floors) buildings, windows shall meet the code requirements of the applicable territory as described above.
Air Sealing	 Buildings with broken mechanical louvers or missing exterior doors and windows are ineligible. The eligible existing conditions are cracked and missing window/door frame caulk, missing/poor condition weatherstripping, holes in building exterior from electrical/plumbing penetrations, leakage at roof/wall intersections, roof hatch. Air sealing surveys must inspect the following areas to determine non-compliance. Top of building – Roof cavity, bulkhead doors and walls Common areas, including stairwells, exterior walls, and common area windows. Basement locations, including basement walls, ceilings and doors. 	 A building survey with recorded measure specification (exterior door or windows) noting location, quantity and size/length Photographic evidence showing current condition of non-compliance and compliance conditions for at least top of building, common areas and basement Scope of work will detail how to remediate non-compliance by using visual inspection and photographic evidence Building audits in which only door issues are detected will not be considered an acceptable air sealing project 	 Includes partial sealing of fixed louvers with annealed glass in accordance with code Includes exterior door weatherstripping, sweep, and threshold, or full replacement if needed Includes repair of common area inoperable windows Includes basement compartmentalization sealing as follows: Install gaskets around trash shoot doors and other interior shaft access panels Caulk around all pipe and electrical penetrations through the exterior wall and ceiling or penetrating from an unconditioned interior space into a conditioned space Larger openings should either be sealed with expandable low VOC spray foam or foam board

5.8 Custom Measures

Table 5.8: Eligible Measures and Technical Requirements – Custom Measures

	Technical Measure Guidelines				
Measure	Existing Equipment	Documentation Requirements	Proposed Equipment and Installation Requirements		
Custom Measures: Other energy- efficiency upgrades not listed in this document may be eligible for	 Case by case per measure 	 Facility operation hours, facility type Utility usage data for past 12 months All applicable information and supporting documents needed to calculate the 	 New equipment must be more efficient than existing and must meet any applicable ECCCNYS requirements 		
performance-based custom incentives at the rates listed in Section 3.2.2.		savings of the custom energy efficiency measure			
Custom Measure: Insulation	 Insulation that encompasses non- linear piping, including insulating jackets for boilers, tanks, fittings (elbows, tees, valves), or other equipment Uninsulated copper or steel piping with a nominal diameter greater than 8.00" in hot water and steam space heating and domestic hot water (DHW) distribution systems in unconditioned spaces 	 Boiler and/or water heater nameplate(s) and performance datasheets. Other heating/cooling equipment datasheets as relevant to the conditioned fluid flows Pipe Insulation Survey must cover 100% of the heating distribution pipes (supply and return) in the common areas 	 New insulation must meet minimum thickness requirements specified in the most recent version of the ECCCNYS Minimum thermal resistance of R-3. Permitted insulation types are fiberglass, rigid foam, or cellular glass pipe insulation. Insulation must be installed on uninsulated copper or steel piping within hot water or steam space heating distributions systems and DHW distribution systems Materials must be certified and rated in accordance with all pertinent ASTM thermal insulation standards may be installed under this measure Boiler jackets are not allowed as a standalone measure 		

Custom Measure: Rooftop Exhaust Fan Retrofit/Replacemen t	Existing motor efficiency must be less than proposed motor efficiency	 Facility operation hours, facility type, and description of existing load profile must be provided. Proposed quantity to be replaced Description of what each fan serves Applicable fan timer schedules for baseline and proposed conditions. Projects with motors operating 24/7 in both the baseline and proposed cases should use the Con Edison EC Motor Tool to calculate savings and incentive. Projects including savings from a decrease in hours of operation (e.g., via new controls) must use a custom calculation. 	 Proposed motor must be higher than applicable minimum motor efficiency as stated in the latest ECCCNYS Proposed motor must not reduce total airflow unless ventilation calculations are provided indicating local code compliance
Custom Measure: Motor Replacement	Existing motor efficiency must be less than proposed motor efficiency	 Facility operation hours, facility type, and description of existing load profile must be provided. Proposed quantity to be replaced Description of motor application Applicable motor schedules for baseline and proposed conditions. Projects with motors operating 24/7 in both the baseline and proposed cases should use the Con Edison EC Motor Tool to calculate savings and incentive. 	Proposed motor must be higher than applicable minimum motor efficiency as stated in the latest ECCCNYS

		 Projects including savings from a decrease in hours of operation (e.g., via new controls) must use a custom calculation. 	
Custom Measure: VFDs	 No existing VFD 	 Facility operation hours, facility type, and description of existing load profile must be provided Description of what each proposed VFD will serve 	 The following applications are not eligible: New VFD replacing existing VFDs VFDs installed in fixed speed applications Installation of entire pumping or ventilation system upgrades or replacements
Custom Measure: Cooling Tower Replacement (NWS eligible)	 Existing unit must be past its effective useful life as per the latest version of the NYS TRM Existing cooling tower must not have VFDs 	 Facility operation hours, facility type, and description of existing load profile must be provided 	 Cooling tower approach temperature of 6F under standard rating conditions. VFD installation for cooling tower fans/pumps are required by code and ineligible for incentives
Custom Measure: Chiller Replacement (NWS eligible)	• Existing unit of lower efficiency than proposed equipment	 Facility operation hours, facility type, and description of existing load profile must be provided 	 Replacement equipment efficiency must exceed baseline efficiency compared to existing equipment and Energy Conservation Construction Code of New York State (ECCCNYS) to qualify for eligibility
Custom Measure: Ventilation Overhaul	 Co- or Pre-requisite measures: Rooftop exhaust fans to be replaced No existing Constant airflow regulators (CARs) installed within the registers Existing motor efficiency for exhaust fans must be based off motor nameplate For motors with no nameplate efficiency, baseline efficiency based off the motor 	 Facility operation hours, facility type, and description of existing load profile must be provided. Proposed quantity to be replaced Description of what each fan serves Applicable fan timer schedules for baseline and proposed conditions. CFM measures and aerosol reports for the ductwork and shafts should include the existing and proposed conditions 	 Proposed motor must be higher than applicable minimum motor efficiency as stated in the latest ECCCNYS Kitchens and bathrooms shall be continuously ventilated to a minimum of 25 CFM as stated in the latest version of the NYC Mechanical code Note: Savings associated with shafts being cleaned and sealed should not be included

	year installed can be used	A total count of the kitchen and bathroom registers	
Custom Measure: Burner Replacement	• Existing unit of lower efficiency than proposed equipment	 Facility operation hours, facility type, and description of existing load profile must be provided Hours of operation must be allocated appropriately for each stage of modulating burners 	 Replacement equipment efficiency must exceed baseline efficiency New burners must be correctly tuned for optimum operational conditions
Custom Measure: Linkage-less Burner Control	 Linkage-based controlled burners Measure cannot be combined with boiler replacement 	 Facility operation hours, facility type A picture of nameplate with efficiency or a submittal/email from the manufacturer stating the efficiency Pre and post combustion test results must be submitted along with completion documents 	All linkage-based controls are replaced with automatically controlled servo motors
Custom Measure: Energy or Heat Recovery Ventilators (ERVs or HRVs)	• Building with ASHRAE 62.2- compliant exhaust fan system with no heat or energy recovery	 Facility operation hours, facility type, description of existing load profile, and AHRI certificate must be provided Nameplate photos for existing central heating and cooling systems 	 ASHRAE 62.2-compliant exhaust fan system equipped with AHRI certified ERV or HRV components

5.8.1 Performance-Based Incentives - Custom

Other energy-efficiency upgrades not listed in this document may be eligible for performance-based custom incentives at the rates listed in Section 3.2.2. New equipment must be more efficient than existing and must meet any applicable ECCCNYS requirements.

Projects are accepted based on a review by the Program Administrators and may be approved, rejected, or requested to participate in additional M&V before being offered incentives. Final custom measure eligibility, savings and incentives are determined at the sole discretion of Con Edison and are subject to change at any time regardless of past results.

Required Project Documentation

Projects with measures listed in the Technical Resource Manual (TRM) or which have been accepted in the program before must provide the first set of requirements. Projects with measures not listed in the TRM or which are new to the program (New Technology) must include all requirements on this section.

All Projects Require Submission of the Following:

- A. A detailed scope of work that contains all equipment being proposed for replacement. Must include the sequence of operation for the existing system.
- B. A formal cost proposal for the proposed new energy efficient equipment as well as the minimum codecompliant equipment as provided to the customer. Must include spec sheets, make and model number of the equipment on company letterhead.
 - a. Cost proposal, spec sheets, make and model information of the higher efficient proposed equipment.
 - b. Cost proposal, spec sheets, and make and model information of code compliant proposed equipment.
- C. Cooling/heating capacity of the existing equipment and the proposed new energy efficient equipment and its efficiency rating
 - a. Supported by manufacturer's equipment spec sheets or industry standard performance testing results for existing equipment.
 - i. The NET capacity is to be used, and NOT the GROSS capacity (the net capacity is typically a little lower than gross, as it removed the fan power and associated heat from the calculation).
 - ii. In instances where the manufacture spec sheet is not retrievable (for very old, existing equipment), it is acceptable to use the building code or the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standard that was applicable the year the unit was installed.
- D. An engineering analysis of estimated energy consumption of the existing equipment, estimated energy consumption of the code compliant equipment and the proposed new energy efficient equipment.
 - a. The engineering analysis is for the code compliant equipment AND proposed equipment

- b. Each engineering analysis must include both summer peak kW load, kW nameplate, and annual kWh usage, or the annual gas usage (in therms) for gas projects.
- c. Each analysis must be provided in a datasheet format such as Excel with savings calculations and algorithms. Calculations in PDF format are not acceptable.
 - i. Calculations must clearly define the baseline energy usage, code compliant energy usage, and the proposed energy usage.
 - 1. Multiple measures to the same system should be interactive.
 - 2. If the measure is a unit replacement that is not defined in the NYS TRM, New York State Energy Code must be used as baseline.
- d. It is recommended to provide an explanation of the calculations used in the analysis.
- E. Proof of equipment functionality
 - a. Supported by Con Edison pre-inspection while equipment is operating, building management system (BMS) trend data, equipment service log

All New Technology Measures Require the Following Additional Information

- F. Manufacturer-claimed savings as a percentage range
- G. Information on adoption by other utility energy efficiency programs (provide links or resources to verify)
- H. Reliable third-party studies on energy savings potential
- I. Product literature such as diagrams or videos showing how the product works
- J. Baseline metered or trended data
- K. Any additional information requested by the Program Administrators

5.8.2 Early Replacement-Custom

Energy efficiency upgrades for equipment that has not yet reached its Effective Useful Life (EUL) are able to apply for the Early Replacement incentive. In this category, the measure is eligible for maximum energy savings and incentives. Energy savings are based on the existing equipment efficiency and operating conditions. Early Replacement energy efficiency upgrades may be eligible for performance-based Custom incentives at custom measure rate. Final custom measure eligibility, savings and incentives are determined at the sole discretion of Con Edison.

Projects applying for incentives using the Early Replacement path are required to satisfy any measure eligibility criteria identified in other sections of this manual as applicable. For example, a project involving the installation of a new chiller must meet all of the program eligibility requirements for chillers in addition to the requirements listed in this section.

Following is the minimum information required for energy conservation measures (ECM's) related to early replacement of equipment.

For a measure to be eligible for early replacement incentives:

1. At the time of application, the existing equipment cannot exceed its Effective Useful Life (EUL) and should have at least 1 year of its EUL remained (see table below for more details on the EUL of eligible equipment).

Category	Measures	EUL (years)
Compressed Air	Air Compressor	13
-	Refrigerated Air Dryer	13
Domestic Hot Water	Indirect Water Heater	15
	Storage Tank Water Heater	15
	Tankless Water Heater	20
	Heat Pump Water Heater – Air Source (HPWH)	10
	Air Conditioner (Rooftop Unit, PTAC)	15
	Heat Pump (Air Source, PTHP)	15
	Heat Pump (Water Source)	25
	Chiller (Air and Water Cooled)/ Air Handler	20
	Cooling Tower	15
	Combination Boiler & Water Heater	20
Heating, Ventilation and Air	Condensing Gas-Fired Unit Heater for Space	18
	Boiler (Hot Water, Steel Water Tube)	24
Conditioning (HVAC)	Boiler (Hot Water, Steel Fire Tube)	25
	Boiler (Hot Water, Cast Iron)	35
	Boiler (Steam, Steel Water Tube)	30
	Boiler (Steam, Steel Fire Tube)	25
	Boiler (Steam, Cast Iron)	30
	Furnace (Gas-Fired)	23
	Unit Heater (Gas-Fired)	13
	Infrared Gas Space Heater	17
	<u> </u>	
Other		
	High Performance Glazing (Windows)	20

2. The existing equipment must be fully functional.

*Please note that EUL values listed above are subject to change per the latest version of the TRM (Appendix P). The EUL values listed in the current TRM will take precedence.

Required Project Documentation

Projects with measures listed in the Technical Resource Manual (TRM) which includes those measures in the table below must provide the first set of requirements. Projects with measures not listed in the TRM must include all requirements on this sheet.

All Projects Require Submission of the Following:

- A. A detailed scope of work that contains all equipment being proposed for replacement under early replacement. Must include the sequence of operation for the existing system.
- B. A formal cost proposal for the proposed new energy efficient equipment as well as the minimum codecompliant equipment as provided to the customer. Must include spec sheets, make and model number of the equipment on company letterhead¹.
 - a. Cost proposal, spec sheets, make and model information of the higher efficient proposed equipment.
 - b. Cost proposal, spec sheets, and make and model information of code compliant proposed equipment.
- C. Cooling/heating capacity of the existing equipment and the proposed new energy efficient equipment and its efficiency rating
 - a. Supported by manufacturer's equipment spec sheets or industry standard performance testing results for existing equipment.
 - i. The NET capacity is to be used, and NOT the GROSS capacity (the net capacity is typically a little lower than gross, as it removed the fan power and associated heat from the calculation).
 - ii. In instances where the manufacture spec sheet is not retrievable (for very old, existing equipment), it is acceptable to use the building code or the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standard that was applicable the year the unit was installed.
- D. Age of the existing equipment
 - a. Supported by original invoice, bill of sale, construction permit, service log, or nameplate date
- E. Estimated remaining equipment life until total failure (beyond repairs)
 - a. This should be a best estimate based on the working condition of the existing equipment (at a minimum you should compare this to the EUL of the equipment per the TRM).
- F. Proof of equipment functionality
 - a. Supported by Con Edison pre-inspection while equipment is operating, building management system (BMS) trend data, equipment service log

All Non TRM Measures Require the Following Additional Information

- G. An engineering analysis of estimated energy consumption of the existing equipment, estimated energy consumption of the code compliant equipment and the proposed new energy efficient equipment.
 - a. The engineering analysis is for the code compliant equipment AND proposed equipment
- H. Each engineering analysis must include both summer peak kW load, kW nameplate, and annual kWh usage, or the annual gas usage (in therms) for gas projects.

¹ See TRM page 701-702, under Appendix M guidelines for Early Replacement Conditions

- I. Each analysis must be provided in a datasheet format such as Excel with savings calculations and algorithms. Calculations in PDF format are not acceptable.
 - a. Calculations must clearly define the baseline energy usage, code compliant energy usage, and the proposed energy usage.
 - i. Multiple measures to the same system should be interactive.
 - ii. If the measure is a unit replacement that is not defined in the NYS TRM, New York State Energy Code must be used as baseline.
 - b. It is recommended to provide an explanation of the calculations used in the analysis.

5.8.3 Extended Life – Custom

Energy efficiency upgrades for equipment that has surpassed its Effective Useful Life (EUL) are able to apply for the Extended Life incentive. In this category, the measure is eligible for maximum energy savings and incentives. Energy savings are based on the existing equipment efficiency and operating conditions. Extended Life energy efficiency upgrades may be eligible for performance-based Custom incentives at the custom measure rate. Final custom measure eligibility, savings and incentives are determined at the sole discretion of Con Edison.

The following is the minimum information required for energy conservation measures (ECM's) related to extended life equipment. **Only multifamily centralized equipment is applicable for extended life**².

For a measure to be eligible for extended life equipment incentives:

- 1. At the time of application, the upgrade must meet the following criteria:
 - a. Age Rule: The equipment to be replaced must be aged at least 125% of its prescribed effectiveuseful life in cases where the age of the equipment can be determined to this extent. If the equipment is determined to be less than 125% of its EUL, it is not eligible for SC treatment regardless of consumption or any other factor.
 - b. Energy Use Rule: Applies only in cases in which the age of the existing equipment cannot be determined relative to 125%; existing equipment of most types must consume at least 20% more energy than the new high efficiency equipment to do the same amount of work, and at least 35% more for chillers.
- 2. There must be a history of significant repair or replacement with used equipment.
- 3. The existing equipment must be fully functioning.

Required Project Documentation

Projects with measures listed in the Technical Resource Manual (TRM) which includes all measures in the table below must provide only the first set of requirements. Projects with measures not listed in the TRM must include all requirements on this sheet.

² Multifamily centralized equipment applies to equipment serving building, building wings, or campuses rather than individual tenant units. Examples include boilers (space heating and DHW), furnaces, chillers, ventilations. For the central systems, the eligibility includes distribution devices and auxiliary equipment such as controls, motors, pumps, fans, air handling units, duct and pipeline mains. For example, apartment PTACs with hydronic hot water coils, served by a central hot water boiler.

Category	Measures	EUL (years)
Compressed Air	Air Compressor	13
	Refrigerated Air Dryer	13
	Indirect Water Heater	15
Domestic Hot Water	Storage Tank Water Heater	15
	Tankless Water Heater	20
	Heat Pump Water Heater – Air Source (HPWH)	10
	Air Conditioner (Rooftop Unit, PTAC)	15
	Heat Pump (Air Source, PTHP)	15
	Heat Pump (Water Source)	25
	Chiller (Air and Water Cooled)/ Air Handler	20
	Cooling Tower	15
	Combination Boiler & Water Heater	20
Heating, Ventilation and Air	Condensing Gas-Fired Unit Heater for Space	18
	Boiler (Hot Water, Steel Water Tube)	24
Conditioning (HVAC)	Boiler (Hot Water, Steel Fire Tube)	25
	Boiler (Hot Water, Cast Iron)	35
	Boiler (Steam, Steel Water Tube)	30
	Boiler (Steam, Steel Fire Tube)	25
	Boiler (Steam, Cast Iron)	30
	Furnace (Gas-Fired)	23
	Unit Heater (Gas-Fired)	13
	Infrared Gas Space Heater	17
	Air Cooled Refrigeration Condenser	15
Refrigeration	Equipment (Condensers, Compressors, and	15
	Refrigerated Case/ Walk-in Cooler or Freezer	15
Other	Clothes Washers	14
	High Performance Glazing (Windows)	20

*Please note that EUL values listed above are subject to change per the latest version of the TRM (Appendix P). The EUL values listed in the current TRM will take precedence.

All Projects Require Submission of the Following:

- A. A detailed scope of work that contains all equipment being proposed for replacement under extended life. Must include the sequence of operation for the existing system.
- B. A formal cost proposal for the proposed new energy efficient equipment as well as the minimum codecompliant equipment as provided to the customer. Must include spec sheets, make and model number of the equipment on company letterhead³.

³ The TRM calls for use of the dual baseline method. It assumes that without the program, at the end of the default functional period (DFP) the customer would have installed equipment that meets the code and the customer would not have purchased any equipment until the future end of the DFP.

- a. Cost proposal, spec sheets, make and model information of the higher efficient proposed equipment.
- b. Cost proposal, spec sheets, and make and model information of code compliant proposed equipment.
- C. Cooling/heating capacity of the existing equipment and the proposed new energy efficient equipment and its efficiency rating
 - a. Supported by manufacturer's equipment spec sheets or industry standard performance testing results for existing equipment.
 - i. The NET capacity is to be used, and NOT the GROSS capacity (the net capacity is typically a little lower than gross, as it removed the fan power and associated heat from the calculation).
 - ii. In instances where the manufacture spec sheet is not retrievable (for very old, existing equipment), it is acceptable to use the building code or the ASHRAE standard that was applicable the year the unit was installed.
- D. Age of the existing equipment
 - a. Supported by original invoice, bill of sale, construction permit, service log, or nameplate date
- E. Estimated remaining equipment life until total failure (beyond repairs)
 - a. This should be a best estimate based on the working condition of the existing equipment (at a minimum you should compare this to the EUL of the equipment per the TRM).
- F. Actual repair cost, including component replacement for at least the past 18-24 months
 - a. Supported by invoices or proof of payment
 - b. Total repair cost must be added and summarized in a document⁴
- G. Proof of equipment functionality
 - a. Supported by Con Edison pre-inspection while equipment is operating, BMS trend data, and/or equipment service log.

All Non TRM Measures Require the Following Additional Information

- H. An engineering analysis of estimated energy consumption of the existing equipment, estimated energy consumption of the code compliant equipment and the proposed new energy efficient equipment.
 - a. The engineering analysis is for the code compliant equipment AND proposed equipment
- I. Each engineering analysis must include both summer peak kW load, kW nameplate, and annual kWh usage, or the annual gas usage (in therms) for gas projects.
- J. Each analysis must be provided in a datasheet format such as Excel with savings calculations and algorithms. Calculations in PDF format are not acceptable.
 - a. Calculations must clearly define the baseline energy usage, code compliant energy usage, and the proposed energy usage.
 - i. Multiple measures to the same system should be interactive.
 - ii. If the measure is a unit replacement that is not defined in the NYS TRM, New York State Energy Code must be used as baseline.
 - b. It is recommended to provide an explanation of the calculations used in the analysis.

5.8.4 Secondary Steam and Oil – Custom

The Program offers incentives to projects that reduce both electricity and district steam provided by Con Edison or oil. Such projects may receive incentives for the reduction of Secondary Steam or Oil. Secondary Steam or oil savings are defined as secondary savings achieved by a measure that primarily reduces electric energy use.

To qualify for Secondary Steam or Oil incentives, a project must:

- 1. Have an eligible Con Edison electric account
- Have active Con Edison steam service for projects looking to claim secondary steam savings or provide annual oil (Fuel Oil No. 2 and 4 only) usage and proof of purchase for buildings looking to claim oil savings
- 3. Install one of the eligible measures. Measure must save both Con Edison electric energy and Con Edison steam energy or oil
- 4. Building with interruptible gas service is not eligible

The following measure/project types do not qualify for incentives:

- 1. Measures that save only Con Edison steam are not eligible for this program
- 2. Projects must not include installation of space heating and domestic hot water equipment fueled by gas, steam, or other delivered fuel

The following measures are eligible for secondary steam incentives:

- 1. Envelope upgrades to existing buildings that reduce the building cooling and heating loads.
- 2. Building Automation Systems (BAS) that reduce both Con Edison electricity and Con Edison steam consumption.

All Secondary Steam and Oil projects will be reviewed on a case by case basis to undergo M&V.

5.8.5 Fuel Switching – Custom

The Program offers incentives to HVAC upgrades that electrify existing district steam, oil, or natural gas equipment. Fuel switching is defined as any measure that converts existing district steam, oil, or natural gas HVAC equipment to electricity. Measures converting from electric to gas/steam/oil are not eligible for incentives.

To qualify for Fuel Switching incentives, a project must:

- 1. Have an eligible Con Edison electric account
- 2. Have active Con Edison steam service or provide annual oil (Fuel Oil No. 2 and 4 only) usage and proof of purchase
- 3. Have not received incentives through the Demand Management Program (DMP) for the existing steam or natural gas consuming equipment and associated controls, being proposed for electrification.
- 4. Not located in a Non-Wires Solutions (NWS) area. Refer to Section 2.5.4 for NWS territory map.
- 5. Be an existing facility, including gut renovation

Table 5.8.5: Example Fuel Switching Measures include but are not limited to:

Existing Equipment	Proposed Replacement Technology
Steam absorption chiller	Electric chiller
Steam turbine chiller	Electric boiler
Gas-engine-drive chiller	
Gas-fired boiler	
Steam-driven boiler	
Oil-fired boiler	

Measures <u>not eligible</u> for fuel switching incentives include heat pumps, heat pump chillers, heat recovery chillers for space heating/cooling or hot water; Electrification of non-HVAC equipment, such as stoves, washers, and dryers; Conversion to electric resistance heating; and removal of Cogeneration or Combined Heat and Power (CHP) Plants

Table 5.8.5: Incentive

Measure	Incentive
Fuel Switch – HVAC	\$70 per MMBtu

Required Project Documentation

All projects must provide a detailed description of the fuel switching measure being proposed, including energy savings and calculation methodology that accurately quantifies the proposed savings.

- A. Savings shall be calculated as the difference in energy consumption between baseline equipment and new energy efficient technology.
- B. Savings shall be expressed in MMBTU.
- C. Savings baselines are dependent on measure application type as follows:

Measure Application Type	Baseline Utilized for Calculation	Proposed
Normal Replacement	Code or Industry Standard Efficiencies (Gas/Steam Fuel Equipment)	Electric Fuel Equipment

Special	Existing	Electric
Circumstance	Equipment	Fuel
 Extended 	Efficiency	Equipment
Life or Early	(Gas/Steam	
Replacement	Fuel	
-	Equipment) ¹	

¹Existing equipment efficiency must be backed up with supporting documentation submitted by the customer or PC as per the Extended Life or Early Replacement technical guidance.

- D. Savings approach may include but are not limited to:
 - Computer Energy Modeling Software
 - Bin Analysis
 - Modified TRM measures
- E. Con Edison Master Case ID (Provided by Con Edison Energy Services)

All Steam and Oil projects will be reviewed on a case by case basis to undergo M&V.

5.8.6 Approved Energy Modeling Software – Custom Measures

Custom energy efficiency upgrades may be submitted with a complex energy model outlining the baseline and proposed cases. These models must include where trade-offs among disciplines and are calculated. Models should use the following software including updates: DOE2.1E, eQuest, EnergyPlus, Trane TRACE 700, Trane TRACE 3D Plus, IESVE, or OpenStudio. Final custom measure eligibility, savings and incentives are determined at the sole discretion of ConEdison.

6 Project Costs and Invoicing Requirements

When submitting invoices with completion certificates, customers must provide the Program Administrators with detailed invoices identifying the following:

- References to the project, including the project address, and related items listed in the scope of work that were approved by the program. Changes to the approved scope of work must be submitted to the Program Administrator and its IC for approval.
- Equipment installed (Make/Model Number): This is required to verify the equipment installed qualifies for Program incentives.
- Quantity, purchase, and delivery date of equipment installed: This is used to verify the quantity of equipment installed aligns with the Program application. (This is optional, unless requested by the Program Administrators.)
- Itemized labor and material costs for all installed equipment: This is required to verify individual costs.
- The final invoice provided to the Program Administrators must be the same invoice the customer is receiving and match the Certificate of Completion.
- Each line item must include a brief description. For example, include the equipment tag for an air handler as "AHU 13B", as well as the make and model number.
- If a PC is receiving incentives on behalf of a customer, a line item stating "Program credit" with an invoice credit must be documented on the invoice. The invoice credit must reflect the same incentive amount the customer would receive had they completed the submission themselves for the same project.

• In the event a custom project submitted for incentives is a portion of a larger scope that includes nonenergy efficiency line items, the customer will must provide invoice(s) that clearly outline the specific project description and cost that is being applied to the project in the program.

7 Program Manual Revisions

The following is a summary of sections updated in this version of the manual. Review the entire manual to ensure your project is eligible in the program.

Date	Section	Summary of Revisions
Updated		
5/15/2023	5.5 Eligible Measures and Technical Requirements – Common Area Gas Measures	Boiler incentive update and boiler capacity requirement update. Master Air Venting no longer accepted as a standalone measure.
5/15/2023	5.7 Eligible Measures and Technical Requirements – Building Envelope Measures	Roof incentive updated to include 15% cap on savings.
5/15/2023	5.8 Eligible Measures and Technical Requirements – Custom Measures	Boiler jackets no longer accepted as a standalone measure.
7/10/2023	2.5 Non-Wires Solutions (NWS) Adder Incentives Eligibility	Measure eligibility and network eligibility were updated.
7/10/2023	5.5 Eligible Measures and Technical Requirements – Common Area Gas Measures	EMS incentive not applicable for buildings with PTAC units or any in-unit thermostat control. Storage Tank Water Heaters tank volume requirement changed
7/10/2023	5.8.1 Performance-Based Incentives - Custom	Clarification on custom measure eligibility, savings and incentives. These are subject to change at any time, regardless of past results.
7/10/2023	5.2 Eligible Measures and Technical Requirements – Lighting Controls	Bi – level lighting controls prohibited in basements except areas used for ingress/egress or frequently visited by occupants.
1/1/2024	2.1 Customer Eligibility	New definition of gut rehab.
1/1/2024	5.5 Common Ares Gas Measures - EMS	Deleted existing equipment.
1/1/2024	5.7 Building Envelope Measures: Roof Insulation	Included new compliance requirement regarding insulation and vapor retardants.
1/1/2024	2.6 Soundview NPA	Added new NPS Soundview offering.
1/1/2024	3.5 Measurement & Verification	Added more details to the M&V process overview.
1/1/2024	5.8.5 Fuel Switching - Custom	Added fuel switching offering.
1/1/2024	5.8.6 Approved Energy Modeling Software – Custom Measures	Software allowed for energy models for custom projects.

1/1/2024	3.4.1.A: Electric Incentives	Lighting and custom incenitve changes. Removal of occupancy sensors.
1/1/2024	3.4.1.B: Gas Incentives	Pipe Insulation, roof insulation, steam trap, boiler clean and tune, window replacement and wall insulation incenitve changes.
3/1/2024	3.4.1.B: Gas Incentives	Roof insulation incenitve change.
3/1/2024	5.7 Building Envelope Measures: Roof Insulation	Changed R Minimum requirments and specified no existing insulation requirement. Included customer invoice requirement.

8 Terms and Conditions

ELIGIBILITY: Con Edison's Multifamily Energy Efficiency (MFEE) Program offers financial incentives for efficiency measures in common areas and eligible building systems to customers who are property owners or managers (customers) of multifamily residences with five or more dwelling units, as well as energy surveys. Customers must receive Con Edison gas and/or electric delivery service, and be in good standing. Incentives are available to customers for the purchase and installation of energy efficiency measures at the location where the qualifying project is to be installed. Con Edison will not offer financial incentives and/or rebates for the same eligible measure to those customers who have received financial incentives or rebates from the New York State Energy Research and Development Authority (NYSERDA) and/or another electric or gas utility company.

QUALIFYING PROJECTS AND MEASURES: Qualifying projects include electric or gas energy-efficiency measures identified as eligible for MFEE Program incentives by Con Edison's implementation contractor, Willdan, based on an energy survey of the building. Qualifying projects do not include any electric or gas energy-efficiency measures or energy efficiency equipment or services purchased, contracted for, or installed prior to the program start date.

PROGRAM APPLICATION: By signing this Program Application, the customer authorizes Willdan or its subcontractors to enter this building for the purposes of conducting an energy survey of the building's common area and individual units, installing MFEE Program measures in individual units, installing any energy-efficiency measures subsequently agreed to in a Scope of Work, inspecting installed measures, and evaluating the performance of installed measures.

INCENTIVE AMOUNTS: The amounts of the incentives for which qualifying projects are eligible are set forth in the program brochures. Con Edison's decision on these issues will be final. Con Edison reserves the right to change the measures and incentives at any time throughout the program cycle.

CUSTOMER WORK AUTHORIZATION AND PROJECT WORK PLAN: Willdan, or its subcontracted partners, will meet with the customer to discuss individual building objectives, provide information on alternatives, discuss process, and create a work project and schedule. Willdan may select and provide one or more approved installation subcontractors to complete the measure-installation work, or the customer may select one or more contractors from an approved list of participating contractors. To be included on the approved list, a contractor shall participate in a required Program Orientation, submit contractor-qualification forms, provide documentation of required insurance, agree to follow program guidelines and protocols, including program reporting and verification requirements, and otherwise be in good standing with Con Edison. Willdan may schedule and/or monitor the required installation services.

IMPLEMENTATION OF WORK, PAYMENT OF INCENTIVES, INSPECTION REQUIREMENTS: The customer must pay its share of the cost for each measure to be installed pursuant to the Scope of Work at a time not later than the completion of installation of that measure. When Willdan confirms that installation of a specific measure is satisfactorily completed, Willdan will arrange for payment of the incentive for that measure to the customer, either directly or by Con Edison, or, if authorized to do so by the building owner, directly to the installation contractor for that measure. Willdan's quality-assurance and/or quality-control inspectors and/or Con Edison, in their sole discretion, may schedule and conduct a post-installation inspection to ensure satisfactory measure installation. Incentive checks will be sent approximately six weeks after Willdan confirms satisfactory installation. With advance notice to the customer, following completion of the project and in order to provide Con Edison or its contractors and subcontractors, to make or to have made follow-up visits to customer facilities, and the customer shall provide building energy system data, supporting documentation, and otherwise cooperate fully in support of this effort.

CUSTOMER INFORMATION: Customer agrees that Con Edison may provide customer information including name, account number, electric and/or gas consumption data and electric and/or gas energy savings to its third-party evaluation contractor for program evaluation purposes. The evaluation contractor will keep customer information confidential. Customer information may also be provided to the New York State Public Service Commission. Any customer information provided to the New York State Public Service Commission will be aggregated with information about other customers and not personally identifiable.

TAX LIABILITY and CREDITS: Con Edison is not responsible for any taxes which may be imposed on the customer as a result of measures installed under this program. Each customer must provide a valid Federal Tax I.D. number.

DISPUTES: Con Edison will have sole discretion to decide on the final resolution of any issues including but not limited to eligibility or incentives.

PROGRAM CHANGES: Con Edison reserves the right to change, modify, or terminate this program at any time without any liability except as expressly stated herein. Con Edison will honor all written commitment incentive rates made in Scope of Work provided to customers prior to the date of any change, modification or termination of this program, provided that project installations are fully completed within the time specified in the Scope of Work.

PROGRAM EXPIRATION: This program will expire December 31, 2024, when funds are depleted, or when the program is terminated, whichever comes first.

DISCLAIMER: Con Edison and Willdan its implementation contractor, make no representations or warranties, expressed or implied, and do not guarantee that implementation of energy-efficiency measures or use of the equipment purchased or installed pursuant to this program will result in energy-cost savings. Accordingly, Con Edison recommends that all customers consider engaging qualified engineers or other qualified consultants to evaluate the risks and benefits, if any, of such implementation and use on energy consumption, cost savings, or operation of customers' facilities.

INSTALLATION REQUIREMENTS: All work must be in full compliance with the requirements of applicable laws, rules, and regulations of authorities having governmental and regulatory jurisdiction. Work must be performed by subcontractors or participating contractors approved by Willdan and Con Edison for participation in the MFEE Program. Additionally, work must be completed within 90 days of the commitment execution date on the Owner's Agreement document. Affordable housing projects must be completed within 12 months of the commitment execution date. In the removal of old equipment, the applicant confirms that, as a requirement of the program, the owner or any subcontractor carrying out installation of measures under this program shall remove and dispose of any and all equipment or materials that are replaced or removed in accordance with all applicable laws, rules, and regulations. If these requirements are not met, then Con Edison may cancel, withdraw, and revoke the incentive funds from the project.

Glossary of Terms

This glossary provides definitions of key terms used in this Program Manual.

Construction Complete Post Inspection: The Program Administrators will inspect the condition of the site after completion of the project.

Custom Project: A project that includes custom measures. Custom measures are eligible measures that are not listed in the New York State Technical Resources Manual. Custom calculations are required to determine the amount of energy savings and incentive amount.

Direct Install: Direct install measures are available for free if installed by direct install contractors provided by the Implementation Contractors. In downstate NY projects, this includes in-unit measures such as LED lights, low flow showerheads, and faucet aerators. In upstate NY, with the exception of O&R, common area LED lights, exit signs, common area room occupancy sensors, and ½" and ¾" DHW pipe insulation are also considered direct install measures and are offered for free if installed by direct install contractors provided by the Implementation Contractor. If an upstate customer, with the exception of O&R, chooses a contractor that is not provided by the Implementation Contractor, they will receive the incentive outlined in Section 3.2.2, instead of receiving the measure for free.

Eligible Customer: Customers who are property owners or managers of existing affordable multifamily buildings with five (5) or more residential units.

Energy Audit: Energy audits are also known as energy assessments. For comprehensive projects, energy audits are conducted by approved Energy Providers before a project begins as part of the technical assistance process and will meet either an ASHRAE Level I+, AHSRAE Level II, or the IPNA standard. For non-comprehensive projects, audits may still be conducted, but they are not required to meet the standards required for comprehensive projects. During an audit, the Energy Provider will evaluate the building to identify energy efficiency opportunities and develop a scope of work.

Energy Efficiency Measures (EEMs): Energy-using appliance, equipment, control system, or practice whose implementation results in reduced energy use while maintaining a comparable or higher level of service. Categories of EEMs include HVAC measures; base load measures such as lighting, process loads, plug loads, etc.; envelope measures; and non-interactive measures such as service water heating.

Energy Provider: Approved Energy Providers complete energy audits through NYSERDA's FlexTech Program before a project begins to help customers identify energy efficiency opportunities and determine an initial scope of work and capital planning.

FlexTech Program: A NYSERDA program which shares the cost of and provides additional supporting regarding an energy audit to facilitate the implementation of clean energy and/or energy efficient technologies in a building.

Implementation Contractor (IC): The Program Administrator's Implementation Contractor oversees coordination of the project. Communication from the customer and/or Participating Contractor (PC) will be facilitated through the Program Administrator's IC.

Incentive Cap: The maximum incentive an Energy Efficiency Measure or project is eligible to receive through the Affordable Multifamily Energy Efficiency Program.

In-Unit Measures: Energy Efficiency Measures installed within the primary dwelling of a resident.

Market Rate Multifamily Offering: Multifamily programs offered to non-LMI Customers.

New York State Research and Development Authority (NYSERDA): A New York State public-benefit corporation established in 1975. NYSERDA offers objective information and analysis, innovative programs, technical expertise, and

support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels.

Notice to Proceed: An email outlining estimated project savings and incentives issued by the Program Administrator that triggers the start of work on a project. Any work started before the Notice to Proceed will not qualify for incentives.

On-site Inspection: A pre- or post-installation inspection that is done in-person by the Implementation Contractor or the Program Administrator.

Participating Contractor (PC): A contractor that will install Energy Efficiency Measures through the project. Participating Contractors must be approved by the Program. Participating Contractors may accept incentive payments on behalf of customers. The program can onboard contractors into the Participating Contractor network at any time.

Preliminary Incentive Offer Letter (PIOL): Issued after pre-inspection for custom projects, and after finalizing the scope of work for comprehensive projects. The PIOL includes an incentive offer and date range for which the offer is eligible. The PIOL must be signed by the customer and returned to the Program Administrator's IC within 30 days.

Prescriptive Project: A project that includes prescriptive measures only. Prescriptive measures are those listed in the New York State Technical Resource Manual (TRM) and have set incentive rates.

Scope of Work: A detailed explanation of work that will be performed as part of a contract or subcontract. It defines project-specific activities, deliverables, and timelines for a vendor providing services to the client.

Statement of Completion (SOC): A document that details the Energy Efficiency Measures that were installed through the project. Must be signed and submitted to the Program Administrator at project completion.

Technical Assistance: Services provided by Program Administrators and Energy Providers to help customers identify energy efficiency opportunities and develop comprehensive Scopes of Work. Energy audits are performed as a form of technical assistance.

Technical Resource Manual (TRM): The New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs - Residential, Multifamily, and Commercial/Industrial, known as the Technical Resource Manual (TRM), provides a standardized, fair, and transparent approach for measuring program energy savings across New York State's energy efficiency programs. To do so, the TRM provides standardized energy savings calculations and assumptions at the measure level for estimating energy and demand savings.

Virtual Inspection: A pre- or post-installation inspection that is done virtually by the Implementation Contractor or the Program Administrator. Virtual inspections will include either: 1) a live video call walkthrough with the contractors or energy providers and the inspector (inspector takes screenshots and/or notes to document findings); or 2) date and time-stamped pictures and/or video recordings that clearly existing equipment to be replaced (in case of pre-inspection) or the new energy efficient equipment (in case of post-inspection).