Small-Medium Business Program 2023

Program Manual

January 2023

Program Manual Acknowledgement

(“Participating Contractor’s Representative”)

Name: ______________________________

Sign: ______________________________

Title: ______________________________

Company: __________________________
# Table of Contents

1. **PROGRAM OVERVIEW:** ........................................................................................................... 4

2. **PROGRAM PARTICIPATION ELIGIBILITY:** ........................................................................... 5
   2.1 Customer Eligibility ............................................................................................................. 5
   2.2 Project Eligibility ............................................................................................................... 5

3. **PARTICIPATING CONTRACTOR ELIGIBILITY:** ................................................................. 6
   3.1 Process Overview: ............................................................................................................. 6
   3.2 Participating Contractor - Application Process .................................................................. 6
   3.3 Participating Contractors - Continued Eligibility ............................................................ 6
   3.4 Corrective Actions ............................................................................................................. 7
   3.5 Training and Engagement ............................................................................................... 8
   3.6 Tax Liability ..................................................................................................................... 8
   3.7 Use of Name and Press Release ..................................................................................... 8

4. **PROJECT PROCESS:** .............................................................................................................. 9
   4.1 Prescriptive Measure Pathway: ....................................................................................... 9
   4.2 Custom Measure Pathway: ............................................................................................. 9
   4.3 Project Process ................................................................................................................... 9

5. **MEASURE STANDARDS:** ...................................................................................................... 12
   1. Lighting Measures .............................................................................................................. 12
      1.1 Light Emitting Diode (LED) Fixtures, Retrofit Kits and Lamps ..................................... 12
      1.2 Lighting – Occupancy Sensors .................................................................................... 12
   2. Refrigeration Measures ..................................................................................................... 13
      2.1 Air-Cooled Refrigeration Condenser .......................................................................... 13
      2.2 Refrigerated Case LED ............................................................................................... 13
      2.3 Refrigerated Night Case Covers .................................................................................. 13
      2.4 Cooler and Freezer Door Gasket ............................................................................... 13
      2.5 Automatic Door Closer for Walk-In Cooler/Freezer ..................................................... 13
      2.6 Anti-Condensation Door Heater Control ..................................................................... 14
      2.7 Electronically Commutated (EC) Motors for Walk-In Freezer/Cooler and Refrigerated Case ................................................................................................................. 14
      2.8 Evaporator Fan Controls ............................................................................................ 14
      2.9 Vending Machine Controls .......................................................................................... 14
      2.10 Ice Maker Replacement ............................................................................................. 14
      2.11 Refrigerated Display Case Replacement .................................................................... 15
   3. HVAC Measures .................................................................................................................. 15
      3.1 Unitary Air Conditioner ............................................................................................... 15

3.2 Variable Frequency Drive (VFD) ........................................................................................................ 15
3.3 Packaged Terminal Air Conditioner .................................................................................................. 15
3.4 Electronically Commutated Motors (ECMs) ....................................................................................... 16
3.5 Wi-Fi Thermostat Replacement ......................................................................................................... 17
3.6 Economizer Controls – Dual Enthalpy ................................................................................................. 17
3.7 Demand Controlled Ventilation (DCV) ................................................................................................. 17
3.8 Chiller – Air and Water Cooled .......................................................................................................... 18
3.9 Chiller – Cooling Tower ...................................................................................................................... 18
3.10 Tune-Up – Chiller System .................................................................................................................. 18
3.11 Motor Replacement ............................................................................................................................ 18
3.12 Energy Management System (EMS) – Guest Room .......................................................................... 19
3.13 Switch Reluctance Motors ............................................................................................................... 19
4. Heating Measures.................................................................................................................................. 19
5. Hot Water Measures ............................................................................................................................ 22
6. Envelope Measures ............................................................................................................................... 24
6. Custom Measures .................................................................................................................................. 26
7. Incentive Rates ....................................................................................................................................... 27
8. OTHER PROGRAMS AND OFFERINGS: ............................................................................................ 28
8.1 NEIGHBORHOOD PROGRAM AND INCENTIVES ELIGIBILITY ................................................. 28
9. Measurement and Verification (M&V) .................................................................................................... 29
10. Quality Assurance and Quality Control (QAQC) .................................................................................. 31
Appendix A: Program Application ............................................................................................................ 32
Appendix B: Early Replacement & Extended Life Replacement Measures Guidelines .............................. 33
1. PROGRAM OVERVIEW:

The Con Edison Small-Medium Business (SMB) Energy Efficiency Program ("SMB" or "Program") provides incentives for Con Edison’s small commercial customers to upgrade their existing lighting, refrigeration, HVAC, domestic hot water, and building envelope to be more energy efficient. These incentives make investments in energy efficiency more affordable for small businesses, helping them reduce their monthly energy costs and their greenhouse gas emissions.

Total project costs can be incentivized at up to 70%. Customers are responsible for the remainder of the project costs not covered by the incentive via a customer copay, which they pay directly to the Participating Contractor.

Lighting and refrigeration projects are processed prescriptively, while allowing Participating Contractors (PCs) to set their own pricing. For specific HVAC-R projects, this program offers both a prescriptive and custom pathway to allow for flexibility. To get started, contact one of our Participating Contractor Managers who will assist you with the short application process and confirm customer eligibility. SMB also provides an in-person onboarding training to help your team become familiar with the SMART project management system and audit tool used to process projects. Incentives are submitted to Con Edison for approval once a project is completed and passes a Willdan post inspection.
2. PROGRAM PARTICIPATION ELIGIBILITY:

2.1 Customer Eligibility

- Con Edison commercial customers classified under service classes 2, 9, or 51 with an average peak demand under 300 kW on a rolling 12-month basis are eligible for SMB incentives. All customers with an average peak demand of 300kW and higher, must enroll for incentives through the Con Edison administered Commercial and Industrial (C&I) program. All multi-tenant residential customers must enroll projects through the Multifamily Building program.
- SMB offers incentives for gas savings measures for Con Edison customers with firm gas accounts. Interruptible gas accounts do not qualify for gas incentives.
- To receive incentives small-medium business customers must not have applied for or received an incentive from the New York State Energy Research and Development Authority (NYSERDA), Con Edison, or another utility for the same measures.

2.2 Project Eligibility

- Only inefficient existing equipment is eligible for a 1-for-1 upgrade. If it is a new construction project, then local codes must be used as a baseline for HVAC-R projects. Contact a SMB Project Coordinator for existing equipment verification.
- Projects must be completed (all documents received in SMART, and project ready for post-inspection) by program end date communicated by ConEd-SMBProgram@willdan.com. All projects completed after this date may be subject to incentive rates based on the following program year.
3. PARTICIPATING CONTRACTOR ELIGIBILITY:

3.1 Process Overview:
Willdan Energy Solutions oversees the successful implementation of ConEd’s SMB Energy Efficiency Program. The onboarding process begins with a general discussion between the prospective Participating Contractor and a member of Willdan’s program staff. This may be conducted in person or over the telephone. The purpose of the discussion is to educate the prospective Participating Contractor about the SMB program, inform them of ways to participate, answer questions and address concerns. This will ensure that the prospective Participating Contractor understands the program’s rules and regulations as well as their own expectations and obligations. If the prospective Participating Contractor intends to move forward, they will request the Participating Contractor Application for completion and signature. Once all of the documents described in the “Enrollment Requirements” are received, reviewed, and deemed satisfactory, the contractor receives a copy of the energy assessment tool and schedules a training session with a member of Willdan’s program staff.

All contractors who participate in the Con Edison Small-Medium Business program must be approved by an SMB Participating Contractor Manager and meet the following requirements:
• Enroll into the SMB program by completing the Participating Contractor application and emailing it for approval to ConEd-SMBProgram@willdan.com
• Provide with the application a current IRS W-9 form and Certificate of Insurance policy (minimum coverage of $1M general liability insurance).
• After the application approval, Participating Contractor must send at least two representatives to the onboarding training sessions.
• Adhere to the Participating Contractor participation requirements.
• Adhere to SMB program requirements.
• Maintain approved Participating Contractor status.

3.2 Participating Contractor - Application Process

To become a Participating Contractor, please follow the steps below:

1. Participating Contractor Application: Completed and notarized, including 3 customer references
2. Completed W-9 form: Attached in this application
3. Certificate of insurance* (COI): The COI should have Willdan Energy Solutions listed as the primary certificate holder, with Consolidated Edison Company of New York listed as the additionally insured. Your insurer should list the certificate holder as follows:
   Willdan Energy Solutions
   Suite #2010
   61 Broadway
   New York, NY 10006
4. Contractor Orientation: Attend a Participating Contractor orientation. Please email ConEd-SMB@willdan.com to receive training materials after completing the steps above.
5. Include MWBE Certificate if applicable.

3.3 Participating Contractors - Continued Eligibility

Once onboarded, Participating Contractors must make sure to stay in good standing in the program; as only Participating Contractors in good standing, consistent with the program requirements, will be allowed to accept incentive payments on behalf of the customer.
In order to stay in good standing, Participating Contractor should:

- Maintain insurance coverage as defined on the Participating Contractor application
- Attend SMB Program Participating Contractor Quarterly Meetings and applicable training
- Adhere to the Participating Contractor program requirements
- Maintain satisfactory Sales-to-Install ratio (kWh) throughout the year as outlined in the table below.

<table>
<thead>
<tr>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ratio enforced</td>
<td>60%</td>
<td>70%</td>
<td>October: 85%</td>
</tr>
<tr>
<td></td>
<td>For pipelines</td>
<td></td>
<td>November: 90%</td>
</tr>
<tr>
<td></td>
<td>&gt;500,000kWh</td>
<td></td>
<td>December: 95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For pipelines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;250,000kWh</td>
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### 3.4 Corrective Actions

It is important to the SMB program that Participating Contractors meet all program requirements and meet the expectations of Con Edison’s customers at a satisfactory level. 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 suspension 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 Small-Medium Business 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 Small-Medium Business Program staff via ConEd-SMBProgram@willdan.com of probation or expulsion from other Con Edison programs.
4. Program expulsion is defined as the permanent removal of the Participating 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.

3.5 Training and Engagement
Participating Contractor training is critical to the success of the program. Before Participating Contractors begin work, they undergo training to ensure they are familiar with all aspects of the program. The first training session occurs when the Participating Contractor Application is signed, and the Participating Contractor has gathered the appropriate personnel to attend. This training is conducted by program staff and is focused on familiarizing Participating Contractors with the program, sales techniques and functionality of the energy assessment tool and SMART database. The training may be done one on one with Participating Contractors and their staff or as part of a group training session with several other Participating Contractors. Online training videos are available in SMART’s document library. The videos cover many topics and range from basics to specific items (e.g., adding line items to a work order, how to run different reports, etc.). This training option is more flexible since it requires less logistical coordination. Additionally, the videos can be reviewed at the sub’s convenience.

3.6 Tax Liability
SMB Participating Contractors are responsible for consulting with their accounting professional regarding tax liabilities because of participation in this energy efficiency programs. Willdan and Con Edison do not provide advisement or consultation on tax matters.

3.7 Use of Name and Press Release
Participating Contractors shall not use the name, seal, logo, and/or web page components, or any variation or abbreviation thereof, of Willdan Group, Inc., Con Edison or of any of their respective subsidiaries, parent companies or affiliates without the prior written consent of WES. Such consent shall be obtained for each individual use of the name, seal, logo and/or web page component in any advertisement, press release or publicity with reference to this Agreement, the Project or any product or service resulting from this Agreement. To be granted approval for Con Ed logo usage please adhere to the Participating Contractor Badge Usage Guidelines and contact your assigned Participating Contractor Manager for further instruction. Participating Contractors shall not prepare photographs, articles, or speeches about the existence of, scope of, or services to be performed under this Agreement without WES’s prior written consent. Applications for approval must be submitted to WES in writing and detail the intended uses thereof. Notwithstanding the foregoing, Subconsultant may distribute a copy of this Agreement to any subsidiary, affiliate, agent, or Participating Contractor for purposes of performance hereunder.
4. PROJECT PROCESS:
The SMB Program offers incentives for installing energy-efficient Lighting, Refrigeration, HVAC, Domestic Hot Water (DHW), Building Envelope, and EMS and Control measures.

Measures can be implemented in one of two “Pathways”: (1) the Prescriptive Measures Pathway or (2) the Custom Measure Pathway

4.1 Prescriptive Measure Pathway:
Prescriptive incentives are offered on systems listed below found in the NYS Technical Resource Manual
- Heating, Ventilation, and Air Conditioning (HVAC)
- Lighting and Lighting Controls
- Refrigeration
- Domestic Hot Water

4.2 Custom Measure Pathway:
Projects can be processed through a Custom pathway for HVAC and refrigeration if the measures being pursued are NOT found in the NYS Technical Resource Manual. Custom measures require additional documentation to verify savings and might require additional measure and verification (M&V) studies.
The following table describes the categories of the Custom Measures Pathways:

<table>
<thead>
<tr>
<th>TRM Custom Measure Pathways:</th>
</tr>
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<tbody>
<tr>
<td>CATEGORY 1 – UNIQUE MEASURES / PROJECTS</td>
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<tr>
<td>CATEGORY 2 – MEASURES INCLUDING PRESCRIPTIVE MEASURES NOT IN THE TRM</td>
</tr>
<tr>
<td>CATEGORY 3 – MEASURES IN TRM BUT USED IN A DIFFERENT APPLICATION AND/OR ENVIRONMENT</td>
</tr>
<tr>
<td>CATEGORY 4 – WHOLE-BUILDING ANALYSIS</td>
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4.3 Project Process
The following steps highlight the major milestones when processing the projects through our program:

1. ACCOUNT ASSIGNMENT AND EQUIPMENT ELIGIBILITY
   - All customer accounts must be assigned to the associated Participating Contractor in Willdan’s SMART database. This will allow for projects to be monitored throughout the life of the project.
   - All equipment installed in the SMB program must be UL or ETL Certified. All lighting equipment also must be either DLC or Energy Star® certified. All refrigeration equipment must also be NSF certified. All HVAC equipment must be AHRI certified.
• All equipment specification sheets from the manufacturer must be provided for each project, along with proof of product certifications and original survey pictures of the units or fixtures.
• Measures receiving incentives through Con Edison’s Instant Lighting Incentive Program cannot be incentivized through the SMB program.

2. PRELIMINARY INCENTIVE OFFER LETTER (PIOL)
• The incentives presented to a customer are valid for 90 days. If the customer does not move forward within 90 days, the offer is no longer valid and subject to new incentive rates, if any.
• For prescriptive lighting and refrigeration, the PIOL is issued once a survey tool is uploaded successfully to SMART. For custom projects, the PIOL is issued during the pre-inspection phase.

3. PRE-INSPECTION
• A pre-inspection must be conducted for all projects before the installation can begin.
• If your project receives a failed inspection by Willdan or a third-party inspector appointed by Con Edison, you must alter your project’s work scope according to the inspection recommendation within 3 business days after being notified, or you may work with the field inspector to revisit the site.
• If a physical inspection is not possible to conduct, under any adverse circumstances, Willdan, or third-party inspectors authorized by Con Edison, reserves the right to request the Participating Contractors to provide the equipment pictures and videos. In such cases, Participating Contractors should provide time, date, and geo-tagged pictures and/or videos of 100% of the existing equipment.

4. INSTALLATION SCHEDULE
• After a Participating Contractor receives a passed pre-inspection, the project is available for installation once it is put on SMART schedule with a start date. Notify your assigned Participating Contractor Manager with the project install date before starting work.

5. PROJECT INSTALLATION
• SMB projects are expected to be installed within 90 days from the pre-inspection date. Any sold projects that are not installed within 184 days of the PIOL, will automatically be cancelled in SMART. A new PIOL will need to be secured before any work can be done for any cancelled project.

6. PROJECT COMPLETION
• All Participating Contractors are required to provide specification sheets and product certifications when submitting project completion paperwork. Upon project installation a Statement of Completion (SOC) can be used to Complete a work order in SMART.
• Projects must be 100% installed according to pre-inspected work scope and all changes to work must be approved by the Participating Contractor Manager before installing the equipment.
• An Incentive Offer Letter (IOL) can be signed by the customer once the post inspection has passed.
• Closeout paperwork must match submitted work scope that is uploaded to SMART. Any discrepancies will cause a delay of project approval for billing to Con Edison.

7. POST-INSPECTION
• All projects will conduct a post-inspection (virtual/in-person) to verify counts, installed equipment and product certifications, prior to incentives being “Approved” for billing to
Con Edison. All failed inspections by Willdan or Con Edison authorized third party inspector, must be cured within 3-days of notification from the field inspector.

- If a physical inspection is not possible to conduct, under any adverse circumstances, Willdan or third-party inspectors authorized by Con Edison reserves the right to request the Participating Contractors to provide the equipment pictures and videos. In such cases, Participating Contractors should provide time, date, and geo-tagged pictures and/or videos of 100% of the existing equipment.

8. RECEIVE INCENTIVE PAYMENTS

- Only projects that have received an “Approved” status are included on the incentive invoice. The SMB program submits incentive payment request for all “Approved” projects to Con Edison on the 15th and 30th of each month.

- Once SMB program submits payment request to Con Edison, a third-party reviewer, appointed by Con Edison reviews the documents for accuracy. Con Edison payment terms are 30 - 60 days. It includes the time needed to review for the third party, considering that the paperwork and energy savings calculations are correct. Additional time may be required if any revision is needed to the energy savings calculation.

- When Willdan receives incentives from Con Edison, the payments are processed for remittance to Participating Contractors within 10 - business days after receipt. Payments will be remitted according to the information provided on the W9 submitted with your SMB program application.

- Participating Contractors can view the invoice number and submission date that projects are filed under by looking at their ‘Workspace’ in SMART. For all inquiries about invoice states, send a request with an invoice number included to your Participating Contractor Manager for assistance.

9. PROGRAM COMMUNICATION

- All program communications should go directly to your assigned Contractor Manager. Email and phone communication must always remain professional.

- Program staff aim to respond to all email and phone communications within 24 hours. As a professional courtesy, please refrain from following up before that time.
5. MEASURE STANDARDS:

This document presents all energy conservation measures that are eligible for installation in Con Edison’s Small-Medium Business Program. Detailed descriptions are provided for all eligible measures, along with clear measure specification, warranty requirements and guidelines for installations. SMB Participating Contractors must adhere to the highest standards for quality and workmanship when installing energy conservation measures, and all equipment must be installed in accordance with industry and regulatory standards.

1. Lighting Measures

1.1 Light Emitting Diode (LED) Fixtures, Retrofit Kits and Lamps

Measure Description
This section covers energy-efficient lighting equipment, such as LED lamps, LED retrofit kits and LED lighting fixtures. Improved lighting fixtures may include reflectors and other optical improvements to lighting fixtures. These technologies, taken separately or combined into an energy-efficient lighting fixture, provide the required illumination at reduced input power.

1.2 Lighting – Occupancy Sensors

Measure Description
This measure covers the installation of occupancy sensors on interior lighting fixtures, such as wall mounted, knock-out and ceiling mounted occupancy sensors. Interior spaces are defined as any covered area not adequately lit during daylight hours by sunlight, thus requiring daytime operation of lighting. These systems save energy and peak demand by shutting off power to lighting fixtures when the space is unoccupied, or illumination is not required. They also save energy and demand by reducing power to lighting systems to correct for over-illumination due to excessive lamp output.

1.3 Lighting – Bi-level lighting

Measure Description
This measure addresses bi-level occupancy control of lighting in stairwells, corridors, parking garages and parking lots via the installation of controls on existing fixtures or installation of luminaires with integrated bi-level occupancy control. Bi-level occupancy control allows for the continuous lighting of spaces at code-mandated minimum illumination levels when the space is unoccupied and at higher light levels when occupied. This measure is only applicable as a retrofit or replacement in existing buildings because multi-level switching at defined lighting power densities and percentages of full connected load is mandated in many space types by federal, state, local and municipal codes, and standards, including but not limited to ECCCNY 2016752, NYCECC 2016753 and ASHRAE 90.1-2013.754

This measure is restricted to lighting in parking lots and in spaces that are required by fire and safety code to be illuminated continuously. The post-implementation case must comply with all provisions of applicable fire, safety and construction code including but not limited to ECCCNY 2016755, NYCECC 2016756, IBC 2015757, IPMC 2015758, NFPA Life Safety Code759 and NYC Title 27760.
2. Refrigeration Measures

2.1 Air-Cooled Refrigeration Condenser

**Measure Description**
This measure covers the installation of efficient, close approach remote air-cooled refrigeration system condensers typically found in supermarkets.

2.2 Refrigerated Case LED

**Measure Description**
The SMB program promotes the replacement of T12 or T8 lamps and ballasts in refrigerated cases with LED lighting. The preferred retrofit strategy for refrigerated cases is the installation of LED strip fixtures, rather than a re-lamp/re-ballast using a tubular LED retrofit kit. While both strategies are acceptable, the LED the strip fixture with external driver is the preferred option.

**Approved Materials**

**LED Tubes:** All LED tubes must meet the following criteria:
- LED tube and driver must be rated for use in refrigeration.
- The LED system must have an external driver and does NOT power the LED tube through only one of the existing fluorescent fixture sockets.

**LED Strips:** LED strip fixtures must give comparable light output to the fluorescent fixtures they are replacing.

2.3 Refrigerated Night Case Covers

**Measure Description**
For open refrigerated cases, plastic or aluminum case covers can be used when the business is closed. These covers block the case opening to reduce cooling losses and conserve energy.

2.4 Cooler and Freezer Door Gasket

**Measure Description**
This measure covers the replacement of reach-in and walk-in refrigerated display case door gaskets that have become damaged due to normal use and/or the failure of anti-condensate heater elements. When damaged and/or missing, the warmer, more humid air present in the store will infiltrate the case increasing the refrigeration system load while often reducing the efficiency of the evaporator unit as a result of frost accumulation. This measure applies to gaskets on both reach-in doors and the main door of walk-in units typical of supermarkets, convenience stores, and restaurants.

2.5 Automatic Door Closer for Walk-In Cooler/Freezer

**Measure Description**
This measure covers the installation of an auto-closer to the main insulated opaque door(s) of an existing walk-in cooler or freezer. Auto-closers on walk-in coolers and freezers can reduce the amount of time that doors are open, thereby reducing infiltration and refrigeration loads. The auto-closer must firmly close the door when it is within 1-inch of full closure. The walk-in door
perimeter must be ≥ 16 ft

2.6 Anti-Condensation Door Heater Control

Measure Description
This control is designed to regulate the average power applied to the door glass anti-condensation heating element. The control consists of three primary components: a control module, a combination temperature and relative humidity sensor, and an interconnecting cable.

2.7 Electronically Commutated (EC) Motors for Walk-In Freezer/Cooler and Refrigerated Case

Measure Description
EC motors can replace existing shaded pole or permanent split capacitor (PSC) motors. The EC motor can do the same amount of work as other motor types while using significantly less energy. EC motors are also known as brushless DC motors.

2.8 Evaporator Fan Controls

Measure Description
Evaporator fan controls are applied to the evaporator fan motor on walk-in and reach-in cooler and freezer systems to reduce the speed at which the fan runs. The control only runs the fan at full speed when the unit’s thermostat is calling for the compressor to operate, reducing the fan’s speed shortly after the desired temperature is reached and the compressor is turned off. This reduces the motor’s speed—typically from about 1,600 to 400 rpm. The lower speed is considered the bare minimum required to provide defrosting and prevent air in the cooler from stratifying into layers of higher and lower temperature.

2.9 Vending Machine Controls

Measure Description
This measure controls the operations of vending machines so that the lighting and refrigeration systems in the machine are operating only when needed. The controls are typically a timer system that allows the machines to be turned on and reach desired temperatures during the hours of business operations but turned off during other times.

2.10 Ice Maker Replacement

Measure Description
This measure covers the installation of ENERGY STAR® qualified ice makers as well as ice making head, remote condensing, and self-contained air-cooled ice makers. Water-cooled ice makers, ice and water dispensing systems, and air-cooled remote condensing units that are designed for connection to remote rack compressors are not eligible for this measure.
2.11 Refrigerated Display Case Replacement

Measure Description
This measure covers the installation of refrigerated display cases that comply with and exceed the minimum requirements set by the 2020 New York City Energy Conservation Code (NYCECC).

3. HVAC Measures

3.1 Unitary Air Conditioner

Measure Description
- One or more factory-made assemblies, which normally include a cooling coil, an air moving device, a compressor(s) and condenser combination, and may include a heating function as well.
- The functions of commercial and industrial Unitary Air Conditioners, either alone or in combination with a heating plant, are to provide air circulation, cooling, dehumidification, and may include the functions of heating, humidifying, outdoor air ventilation, and air cleaning.
- One or more factory-made assemblies, which normally include an indoor conditioning coil, an air moving device, compressor(s), and an outdoor coil(s), including means to provide a heating function and may or may not include a cooling function. Such equipment may be provided in one assembly by a single manufacturer (unitary), or separate assemblies designed to be used together (applied).
- Must be like-for-like conversion.
- The baseline efficiency for unitary and packaged air conditioning equipment is defined by International Energy Conservation Code and subsequently adopted by the Energy Conservation Construction Code of New York State (ECCCNYS), and the New York City Energy Conservation Code (NYCECC).
- **Effective Useful Life (EUL) Years**: 15

3.2 Variable Frequency Drive (VFD)

Measure Description
- This measure addresses variable frequency drives applied to fans and pumps in commercial and industrial buildings.
- Applications covered in this section are AHU supply and return fans, CHW pumps, cooling tower fans, condenser water pumps and heating hot water pumps.
- The recommended value for the coincidence factor is 0.8
- The baseline system characteristics are VAV system with inlet vane control on supply fans.
- The compliance system characteristics are VAV system with VFD control on supply fans.
- **Effective Useful Life (EUL) Years**: 15

3.3 Packaged Terminal Air Conditioner

Measure Description
- Packaged Terminal Air Conditioner (PTAC) — a wall sleeve and a separate un-encased combination of heating and cooling assemblies specified by the manufacturer and intended for mounting through the wall. It includes refrigeration components, separable outdoor louvres, forced
ventilation, and heating availability by purchaser’s choice of, at least, hot water, steam, or electrical resistance heat.

- Note: Models designated as “cooling only” units need not include heating elements if the physical characteristics and arrangement of the refrigeration system are identical to those of models with heating availability.

- The HSPF is an estimate of the seasonal heating energy efficiency for an average US city. The COP is equal to the HSPF/3.412. Programs should use the manufacturers’ rated HSPF or COP until data can be developed that are more appropriate for NY climates.

- 185 “Caps” = The rated cooling capacity of the project in Btu/h. If the unit’s capacity is less than 7,000 Btu/h, use 7,000 Btu/h in the calculation. If the unit’s capacity is greater than 15,000 Btu/h, use 15,000 Btu/h in the calculations.”

- 186 Nonstandard size units must be factory labeled as follows: “MANUFACTURED FOR NONSTANDARD SIZE APPLICATIONS ONLY; NOT TO BE INSTALLED IN NEW STANDARD PROJECTS.” Nonstandard size efficiencies apply only to units being installed in existing sleeves having an external wall opening of less than 16 in. high or less than 42 in. wide and having a cross-sectional area less than 670 in.

- **Effective Useful Life (EUL) Years:** 15

### 3.4 Electronically Commutated Motors (ECMs)

**Measure Description**

- Horsepower on motors must be less than or equal to one horsepower

- Electronically Controlled Brushless Permanent Magnet Motors, also commonly referred to as electronically commutated motors provide increased efficiency by using a micro-processor to obtain variable speed response and improve both efficiency and reliability by means of eliminating friction attributable to brushes.

- This is a substitute for existing permanent-split capacitor motors.

- This measure addresses the specific application of BPM motors on a retrofit basis for circulating fans of one Horsepower (HP) or less in HVAC air distribution equipment employing heating and/or cooling.

- **Effective Useful Life (EUL) Years:** 15
3.5 Wi-Fi Thermostat Replacement

Measure Description
- These Thermostats operate without behavioral learning capability applied to small commercial buildings with natural gas heat boilers or furnaces, electric heat pumps, electric resistance heating or central air conditioners.
- This measure does not apply to Wi-Fi thermostats installed as part of a Demand Response program.
- The recommended value for the coincidence factor is N/A.
- The baseline efficiency is an HVAC system using natural gas and electricity to provide space heating and cooling controlled by a non-Wi-Fi communicating programmable thermostat.
- The compliance efficiency is an HVAC system using natural gas and electricity to provide space heating and cooling controlled by a Wi-Fi communicating thermostat without behavioral learning capability. The thermostat shall not be installed as part of Demand Response program.
- Operating Hours HVAC system operating hours are embedded in the deemed savings values associated with Wi-Fi communicating thermostats, which are based on metering results.
- **Effective Useful Life (EUL)** Years: 11

3.6 Economizer Controls – Dual Enthalpy

Measure Description
- An air-side economizer is typically integrated into a central air handling system on packaged rooftop units serving small commercial buildings.
- With ducting for both intake and exhaust, the economizer brings outside air into a building to meet ventilation requirements. Mixing of outside air with exhaust air reduces the heating or cooling load requirements of the building.
- The recommended value for the coincidence factor is 0.8
- Baseline condition is assumed to be a rooftop unit with fixed outside air (no economizer)
- Dual enthalpy economizer installed on existing RTU and commissioned to ensure correct operation
- **Effective Useful Life (EUL)** Years: 10

3.7 Demand Controlled Ventilation (DCV)

Measure Description
- DCV systems have the capability to automatically reduce the outdoor air intake below design rate when occupancy of spaces served by the system is less than design occupancy
- This measure assumes DCV with CO₂ sensors will be added to an HVAC system with natural gas heating which previously had no DCV installed
- No available recommended coincidence factor
- The baseline system is a natural gas heated return air system with no DCV installed
- The compliance condition is a DCV system added to the return air system to supply air based on occupancy demands.
- Operating Hours HVAC system operating hours are embedded in the deemed savings values associated with DCV Systems, which are based on metering results.
- **Effective Useful Life (EUL)** Years: 15
3.8 Chiller – Air and Water Cooled

Measure Description
- This measure applies to constant and variable speed electric air-cooled and water-cooled chillers in commercial buildings with built-up HVAC systems.
- The baseline efficiency for air- and water-cooled chillers are defined by the 2020 Energy Conservation Construction Code of New York State.
- **Effective Useful Life (EUL) Years:** 20

3.9 Chiller – Cooling Tower

Measure Description
- This measure covers the installation of close approach cooling towers applied to water-cooled chillers used for space cooling.
- This measure addresses approach temperature only, which is defined as the difference between the cold water temperature (cooling tower outlet) and ambient wet bulb temperature.
- Changes in condenser water set point control strategies are not included.
- **Effective Useful Life (EUL) Years:** 15

3.10 Tune-Up – Chiller System

Measure Description
- Chiller system tune-ups are conducted to ensure equipment is operating at optimal performance and are performed as preventative maintenance, extending the life of the equipment. Tune-ups improve the efficiency and performance of chillers and are useful system checks to ensure maintenance is performed to keep the equipment operating.
- The baseline full load and IPLV kW/Ton values shall be based on actual manufacturers’ catalog for the existing chiller, where available. If this information is unavailable, the efficiencies listed in the 2020 Energy Conservation Construction Code of New York State shall be used.
- **Effective Useful Life (EUL) Years:** 5

3.11 Motor Replacement

Measure Description
- This measure covers the installation of high efficiency, three-phase electric HVAC fan or pump motors of 200 hp or less in commercial and industrial applications.
- The baseline condition is a three-phase electric HVAC fan or pump motor of equivalent type, speed, and horsepower to the efficient case with minimally code compliant full-load efficiency established by the 2020 Energy Conservation Construction Code of New York State in accordance with federal energy conservation standards.
- The compliance condition is a three-phase electric HVAC fan or pump motor with a speed at or below that of the baseline motor and full-load efficiency exceeding the baseline NEMA premium full-load efficiency established by the baseline efficiencies indicated prior.
- **Effective Useful Life (EUL) Years:** 15
3.12 Energy Management System (EMS) – Guest Room

Measure Description
- This measure covers the installation of guest room energy management systems that control HVAC units for individual hotel and motel rooms based upon occupancy sensors, passive infrared or key cards that indicate room occupancy.
- Sensors controlled by networked front desk systems must also have occupancy sensors in each guest room.
- During unoccupied periods, the default setting for controlled units must differ from the operating set point by at least five degrees Fahrenheit or shut the unit fan and heating/cooling off completely.
- The existing (baseline) HVAC system must be manually controlled within each guest room.
- The baseline is defined by a single-room, packaged HVAC unit (with an existing functional integrated economizer) that lacks demand-controlled ventilation controls and lacks supply-fan speed control via a variable-frequency drive.
- **Effective Useful Life (EUL)**: Years: 15

3.13 Switch Reluctance Motors

Measure Description
- A High Rotor Pole Switch Reluctance Motor (HRSRM) is a type of brushless DC electric motor that runs by reluctance torque. Unlike other DC motor types, power is delivered to windings in the stator rather than the rotor.
- The HRSRM motor is comparable or more efficient than an RTU equipped with a variable speed drive supply fan. It results in fan-energy savings and can also include cooling savings if coupled with compressor or ventilation control, compared to a baseline scenario of constant-volume, constant-ventilation operation that is typical of single-zone, packaged HVAC units.
- The baseline is defined by a single-zone, packaged HVAC unit (with an existing functional integrated economizer) that lacks demand-controlled ventilation controls and lacks supply-fan speed control via a variable-frequency drive.
- **Effective Useful Life (EUL)**: Years: 12

4. Heating Measures

4.1 Pipe Insulation

Measure Description
This measure covers the installation of fiberglass, rigid foam and cellular glass pipe insulation on uninsulated copper or steel piping with a nominal diameter between 0.75” and 4.00” in hot water and steam space heating and domestic hot water (DHW) distribution systems in residential buildings. Estimation of energy savings depends on the type and size of the pipe, type and thickness of the insulation, hot water temperature and ambient temperature.
This measure is applicable in retrofit applications only and must be installed by a qualified contractor complying with all relevant construction and safety codes and standards. Only insulation materials certified and rated in accordance with all pertinent ASTM thermal insulation standards may be installed under this measure. This measure is restricted to lengths of existing uninsulated piping in unconditioned spaces only.

4.2 Boiler Clean and Tune

Measure Description

This measure covers tune-up of fuel-fired space heating boilers to improve seasonal heating efficiency. A tune-up involves the inspection, cleaning, and/or adjustment of boiler appurtenances per manufacturer’s recommendations.

4.3 Boiler Replacements (Gas to Gas Replacement or Oil to Firm Gas)

Measure Description

This measure covers the replacement of an existing boiler with a new boiler used for space heating or combined DHW. The baseline case shall be minimally code compliant equipment of the same type and capacity as in the efficient case, which shall be sized in accordance with federal, state, local and municipal codes and standards.

4.4 Steam Traps

Measure Description

This measure covers the repair or replacement of steam traps in low-pressure (≤15 psig) steam space heating applications on existing residential steam systems served by fuel-fired boilers. Steam systems distribute heat from boilers to satisfy space heating requirements. Steam distribution systems contain steam traps, which are automatic valves that remove condensate, air, and other non-condensable gases, while preventing or minimizing steam loss. Steam traps that fail may allow excess steam to escape, thus increasing the amount of steam that must be generated to meet end use requirements.

This measure does not apply to municipal steam systems.

All traps are susceptible to wear and dirt contamination and require periodic inspection and maintenance to ensure correct operation. Faulty steam traps (leaking or blow-through) can be diagnosed with ultrasonic, temperature, or conductivity monitoring techniques. Regular steam trap maintenance and faulty steam trap replacement are steps that minimize steam production. There are three major types of steam traps that are applicable: 1) thermostatic (including float and thermostatic),

2) mechanical and 3) thermodynamic.
4.5 Thermostatic Radiator Valves

Measure Description

This measure covers the installation of thermostatic radiator valves (TRVs) on one-pipe steam radiators. TRVs are self-contained, self-operated valves that do not require ancillary power. They provide local control of room temperature by controlling the venting of air out of the radiator. TRVs are available for a variety of installation conditions utilizing either remote-mounted sensors or integral-mounted sensors by means of remote or integral set point adjustment. This measure is specifically a TRV in combination with an air vent installed at one or more radiators in a one-pipe steam space heating system.

TRVs demonstrate the greatest potential for energy savings and financial viability when overheating is exhibited in zones throughout the system and when combined with other steam system best practices improvements. Therefore, prioritization of this measure is recommended in zones that are overheated by 3°F or greater when installed as part of system inspection, balancing and commissioning including, but not limited to: burner tuning, boiler cleaning, recalibration of boiler control set points, inspection and repair/replacement of leaking inlets and air vents, installation of properly sized air vents, main line steam trap repair/replacement, recalibration of system operating pressure, insulation of bare steam lines and installation of radiator orifice plates in two-pipe systems.

4.6 Ozone Generators

Measure Description

This measure covers the addition of an ozone (O3) generator to on-site commercial-grade laundry equipment, such as those found in hotels, nursing homes, health fitness centers and correctional facilities. Ozone helps break down soils into smaller molecules allowing simple agitation to release them from fabrics. As a result, ozone is a good alternative to conventional detergents and bleach and allows washing machines to clean effectively using significantly less hot water.

4.7 Outdoor Reset Schedule

Measure Description

This measure covers the installation of outdoor temperature setback control for fuel-fired boilers. Outdoor temperature setback control adjusts the hot water setpoint temperature of the boiler in response to outdoor air temperature. This measure is only applicable to retrofit of existing boiler systems. One outdoor temperature setback measure may be applied to each boiler.
4.8 Thermaxx Boiler Jackets (For Fire Tube Boilers)

Measure Description

Please review the Thermaxx training video located in the online Box Folder. Once all measurement videos are accumulated, an introduction to Thermaxx can be made or you can reach out directly to the manufacturer and tell them SMB sent you. Thermaxx will assist you with calculators and tools from there.

4.9 Wi-Fi Thermostats

Measure Description

Wi-Fi communicating thermostats without behavioral learning capability applied to small commercial buildings with fossil fuel-fired heat boilers or furnaces, electric heat pumps, air conditioners or electric resistance heating. These communicating thermostats allow set point adjustment via a remote application.

4.10 Guest Room EMS

Measure Description

This measure covers the installation of guest room energy management systems that control HVAC units for individual hotel and motel rooms based upon occupancy sensors, passive infrared or key cards that indicate room occupancy. Sensors controlled by a networked front desk system must also have occupancy sensors in each guest room. During unoccupied periods, the default setting for controlled units must differ from the operating set point by at least five degrees Fahrenheit or shut the unit fan and heating/cooling off completely. The existing (baseline) HVAC system must be manually controlled within each guest room. The control system may also be tied into other electric loads, such as lighting and plug loads, to shut them off when occupancy is not sensed, however energy savings of additional equipment is not considered under this measure.

5. Hot Water Measures

5.1 Indirect Water Heater Replacement

Measure Description

This measure covers the installation of a fossil fuel fired indirect water heater in which the stored water is heated via hot water or steam produced by a fossil fuel boiler rather than direct input from electric elements or fossil fuel burners. In such a system, a heat exchanger separates the potable water in the water heater from the boiler water. This measure applies to small commercial indirect systems comprising a boiler with input heating capacity less than 300,000 BTU/h and greater than or equal to 4,000 BTU/h per gallon of stored water. This measure estimates savings associated with the delivery of potable hot water only and assumes the installation of zone priority controls to interrupt demand for space heating until domestic hot water demand is met. Larger equipment as well as equipment where zone priority control is not feasible shall be treated under a custom application. The baseline assumption for indirect water heaters is a minimally code compliant tank type water heater or an indirect system with a minimally code compliant boiler, based on actual existing conditions. For new construction, a tank type baseline shall be assumed.
5.2 Instantaneous Water Heater Replacement

**Measure Description**

This measure covers the installation of high-efficiency fossil fuel and electric instantaneous water heaters, which heat water but contain no more than one gallon of water per 4,000 BTU/h of input. It is applicable to fossil fuel-fired instantaneous water heaters with a rated input greater than 200,000 BTU/h and electric instantaneous water heaters with a rated input greater than 12 kW.903 This measure applies to potable hot water delivery only; it is not applicable to hot water heaters used for process loads or space heating. This measure applies to replacement of existing storage type water heaters using the same heating fuel (fossil fuel or electric) as the efficient case. For new construction, this measure assumes baseline to be a standard efficiency water heater using the same heating fuel (fossil fuel or electric) as the efficient case.

5.3 Storage Tank Water Heater Replacement

**Measure Description**

This measure covers the installation of fossil fuel and electric storage tank water heaters designed to heat and store water at a thermostatically controlled temperature. This measure applies to potable hot water delivery only; it is not applicable to hot water heaters used for process loads or space heating. Storage type units include commercial fossil fuel storage water heaters with a nominal input of greater than 75,000 BTU/h and less than 4,000 BTU/h per gallon of stored water and commercial electric storage water heaters with a nominal input of greater than 12 kilowatts and less than 4,000 BTU/h per gallon of stored water.921 This measure applies to replacement of existing storage type water heaters using the same heating fuel (fossil fuel or electric) as the efficient case. For new construction, this measure assumes baseline to be a standard efficiency water heater using the same heating fuel (fossil fuel or electric) as the efficient equipment.

5.4 Low Flow Salon Valve

**Measure Description**

This measure covers the retrofit of salon valves, often used at hair salons and at pet grooming facilities, with low-flow spray heads. Salon valves are handheld devices that are designed to wash and rinse hair. Retrofitting existing standard-flow salon valves in locations where service water is supplied by electric or natural gas fired hot water heaters with new low-flow heads reduces hot water consumption, which results in corresponding energy savings. Due to limited information regarding the typical operating characteristics of low-flow salon valves, this measure relies on commercial showerhead and pre-rinse spray valve research to establish an approach that estimates the savings associated with low-flow salon valve devices.

5.5 Low – Flow – Faucet Aerator

**Measure Description**

This measure covers the installation of low-flow faucet aerators in commercial and industrial applications. A faucet aerator is a water saving device that attaches to a preinstalled faucet and reduces water flow while maintaining appropriate water pressure. Retrofitting existing code compliant aerators in locations where service
water is supplied by electric or fossil fuel-fired hot water heaters with more energy efficient aerators reduces hot water consumption resulting in corresponding energy savings. This measure is not applicable to public lavatories.

5.6 Low – Flow – Pre-Rinse Spray Valve

Measure Description
This measure covers the retrofit of pre-rinse spray valves, often used in commercial and institutional kitchens. Pre-rinse spray valves (PRSV) are handheld devices that are designed to remove food waste from dishes prior to dishwashing. Retrofitting existing standard flow PRSVs in locations where service water is supplied by electric or natural gas fired hot water heaters with new low-flow PRSVs reduces hot water consumption resulting in corresponding energy savings.

6. Envelope Measures

6.1 Cool Roof

Measure Description
This measure covers the installation of roofing material with reduced solar absorptance. Cool roofs reduce heat gains and alleviate cooling HVAC loads. State regulations require a minimum three year aged solar reflectance of 0.55 and thermal emittance of 0.75 and a solar reflectance index of 64.827. In currently available system models, the cool roof (qualifying) is assumed to have a solar absorptance of 0.3 compared to a standard roof (baseline) with solar absorptance of 0.8. Due to negative impacts on space heating, this measure is applicable to buildings with air conditioning and gas heat only. This measure is only applicable to existing buildings constructed before 2012 that have not undergone roof improvements since 2012.

6.2 Window Film

Measure Description
This measure covers the installation of window films with reduced solar heat gain coefficient applied to single pane clear glass. Windows with lower solar heat gain coefficient lead to less required cooling loads within a conditioned space. Due to negative impacts on space heating, this measure is applicable to buildings with electric AC and gas heat only. This measure is applicable to uncovered, single pane clear glass windows in existing buildings only.

6.3 Window Glazing

Measure Description
This measure covers the installation of high efficiency windows with reduced thermal conductance and solar heat gain coefficient. For the purposes of this measure, a window is defined as an assembled unit consisting of a
frame/sash component holding one or more pieces of glazing functioning to admit light and/or air into an enclosure and designed for a vertical installation in an external wall of a commercial building.

### 6.4 Air Leakage Sealing

**Measure Description**

This measure covers methods of sealing air leakage paths to reduce the natural air infiltration rate of a building through the installation of products and repairs to the building envelope, including, but not limited to, caulking, gasketing, and weather stripping. Sealing the thermal envelope reduces passive convective heat transfer between conditioned and unconditioned spaces or outside air, thereby reducing heating and cooling loads and improving occupant comfort. This measure is only applicable as a retrofit in existing buildings. This measure is not applicable to gut rehab/major renovation projects, which entail whole-building envelope alterations that trigger more stringent code provisions, limiting potential incremental savings.

### 6.5 Insulation – Opaque Shell

**Measure Description**

This measure covers the installation of wall and ceiling insulation to reduce the thermal conductance of the building envelope. Energy and demand savings are realized through reductions in the building’s heating and cooling loads. Existing (baseline) and installed (qualifying) shell R values must be captured in order to estimate energy savings. This measure is only applicable as a retrofit in existing buildings. This measure is not applicable to gut rehab/major renovation projects which entail whole-building envelope alterations that trigger more stringent code provisions, limiting potential incremental savings. For applications involving both wall and ceiling insulation, evaluate each component separately via the method below and sum together to determine total estimated energy savings.
6. Custom Measures

Other energy efficiency upgrades not listed in this document or the NYS TRM may be eligible for performance-based incentive at the rate $0.65/kWh. Final custom measure eligibility, savings and incentives are determined at the sole discretion of Con Edison. All custom projects must submit the following information to ConEd-SMBProgram@willdan.com:

- List of all proposed measures with related technical specifications and estimated savings
- An unlocked spreadsheet (PDFs not accepted) with all equations, parameters, and assumption values used to calculate savings
  - All calculations must be clear and transparent utilizing standard engineering methodologies
  - Must list source of values
- Complex energy modeling, including where trade-offs among disciplines are calculated, should use the following software including updates: DOE2.1E, eQuest, EnergyPlus, Trane TRACE, Carrier HAP, IES or OpenStudio.
- All other applicable data and supporting documentation used to calculate savings and/or assumptions.
7. Incentive Rates

Currently Con Edison offers incentives for the following systems:

1. Lighting Systems
2. HVAC Systems
3. Refrigeration Systems
4. Gas Measures

Please Click this Link to View The Incentive Rates
8. OTHER PROGRAMS AND OFFERINGS:

8.1 NEIGHBORHOOD PROGRAM AND INCENTIVES ELIGIBILITY

Con Edison is offering additional incentives in the selected distribution networks Newtown and Brownsville for projects providing electric demands savings specifically for Small and Business Customers. **Customers installing eligible measures may receive an adder incentive in addition to the Core incentive up to $920/kW and $1200/kW in prescriptive and custom upgrades respectively.**

These incentives will alleviate the current networks’ constraints and peak demand while also helping the networks’ reliability.

These incentives make the projects more affordable and impact’s the Customer bottom line by covering up to **100% of the total project cost.** It is also important to highlight that the program follows the same path as the core program.

Below is the summary of the incentives by participating Neighborhoods in the program:

**Neighborhood Program Incentives:**

<table>
<thead>
<tr>
<th>Measure Type</th>
<th>Newtown Network</th>
<th>Brownsville Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>Up to $920 per kW</td>
<td>Up to $920 per kW</td>
</tr>
<tr>
<td>Lighting Controls</td>
<td>Up to $920 per kW</td>
<td>Up to $920 per kW</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>Up to $920 per kW</td>
<td>Up to $920 per kW</td>
</tr>
<tr>
<td>HVAC</td>
<td>Up to $1200 per kW</td>
<td>Up to $1200 per kW</td>
</tr>
</tbody>
</table>

*Only select HVAC and Refrigeration measures are eligible for Neighborhood Program Incentives.
*Neighborhood Program Incentives are subject to change during program year.
9. Measurement and 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, as defined by the Con Edison team
- Projects proposing to install new technologies
- Unique, complex, or risk 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) provides options for assessment of the SMB M&V Projects.

<table>
<thead>
<tr>
<th>IPMVP</th>
<th>Description</th>
<th>Definition</th>
<th>Savings Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Retrofit – Isolation: Key Parameter Measurement</td>
<td>Measurement of a key parameter that defines energy consumption and demand of the ECM’s affected system.</td>
<td>Calculation with baseline period energy and reporting period energy from measurements of key parameters and estimated value</td>
</tr>
<tr>
<td>B</td>
<td>Retrofit- Isolation: All Parameter Measurement</td>
<td>Field measurement of the energy consumption or demand of related variables of the ECM affected system.</td>
<td>Calculation with baseline and reporting period energy or engineering computations using measurements of proxies of energy consumption and demand with routine or non-routine adjustment.</td>
</tr>
<tr>
<td>C</td>
<td>Whole Facility</td>
<td>Utility level measurement of whole facility consumption and demand.</td>
<td>Analysis of whole building baseline and reporting period meter data including routine and non-routine adjustments as required.</td>
</tr>
<tr>
<td>D</td>
<td>Calibrated Simulation</td>
<td>Simulation of energy consumption and demand with utility billing data.</td>
<td>Energy consumption and demand model calibrated with utility billing data.</td>
</tr>
</tbody>
</table>

The standard M&V process entails 3 difference reviews that take place throughout a project’s lifecycle including:

1. **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. After Con Edison review of the M&V plan is complete, the plan is provided to both the customer and the participating contractor, as applicable, for signatures. Once the M&V Plan is signed off, the Con Edison M&V team will proceed with the Pre-Installation Site Visit.
2. 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. After the Pre-Installation Site Visit is performed, Con Edison will provide a Pre-Installation Report detailing all site visit findings and revise the energy savings estimates based on these findings. 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.

3. 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. Once post-installation data has been collected and analyzed, Con Edison will prepare a Post-Installation Final Report which will contain the verified savings for the measure(s) installed. Measures should be installed, inspected, and all data collected by November 15th to claim savings for the same program year. Final incentive is based on final M&V'd savings.
10. Quality Assurance and Quality Control (QAQC)

In addition to Con Edison’s routine process, a small percentage of projects will be selected for QAQC activities, such as a secondary inspection or an additional engineering review. The goal of QAQC is to protect the program team against fraud and provide actionable insights for program improvement and efficiency. QAQC is performed by a third-party contractor on behalf of Con Edison. Project may be selected based on the following criteria: project savings/incentive sizes, geographic location, measure type or participating contractors’ performance. QAQC activities are not optional, and the participant is expected to cooperate fully with any effort by Con Edison or its contractors and subcontractors to make follow-up visits to customer facilities, provide supporting documentation, and other requests in support of this effort. If a project is selected for QAQC, a representative from the third-party contractor will reach out to a customer or contractor on behalf of Con Edison. If you have any questions about the QAQC process or are concerned about a project being delayed or behind schedule, please contact us at ConEd-SMBProgram@willdan.com. Neither QAQC nor their contractors can resolve a timing issue.
Appendix A: Program Application

Please Click this Link to View The Program Application
Appendix B: Early Replacement & Extended Life Replacement Measures Guidelines

Small-Medium Business (SMB) Program

Project Eligibility:

Early Replacements [ER]
The 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 remaining (See table below for more details on the EUL of eligible equipment).
2. The existing equipment must be fully functioning.

Extended Life [EL] Replacements
The following is the minimum information required for energy conservation measures (ECMs) related to Extended Life Replacements.

For a measure to be eligible for Extended Life equipment incentives:

1. At the time of application, existing equipment must exceed its Effective Useful Life (EUL) by at least 25% (see table below for more details on the EUL of eligible equipment), OR Existing equipment’s energy consumption must exceed that of the new high efficiency model by at least 35% for chillers, and 20% for all other measures to do the same amount of work.
2. There must be a history of significant repair or replacement with existing equipment.
3. The existing equipment must be fully functioning.

Required Project Documentation:

Summary: All projects pursuing Early Replacement or Extended Life Replacement incentives require the submission of the following documentation:

For Existing Equipment:

1. Inventory of Existing Equipment
2. Proof of Age of the Existing Equipment
3. Proof of Equipment functionality
4. Proof of History of Repair Costs**

For Proposed Equipment:

5. A Scope of Work [SOW]
6. A Cost Proposal
7. An Engineering Analysis

**Only required for Extended Life [EL] replacements; not Early Replacements [ER].
Required Project Documentation [Continued]

For Existing Equipment:

1. Inventory of Existing Equipment:
   a. Equipment Specs of existing units including make, model number, and sequence of operation
   b. Cooling and/or heating capacity of the existing equipment and its energy efficiency rating
      i. Supported by manufacturer’s equipment data sheets or industry standard performance testing results

2. Proof of Age of the Existing Equipment
   a. Supported by original invoice, bill of sale, construction permit, service log, or nameplate date

   Note: In cases where the installation date of the existing equipment cannot be determined, regardless of manufactured date, the Energy Use Rule per NYS TRM 6.1 Appendix N (“Special Circumstance”) can be applied but will require verification that the existing equipment of most types consumes 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. Whenever possible, this verification should be accompanied by a manufactured date or nameplate date.

3. Proof of Equipment Functionality
   a. Supported by program pre-inspection verification, BMS trend data, or equipment service log

4. Proof of History of Repair Costs, including any component replacement, for the past 18 to 24 months
   a. Supported by invoices, proof of payment, equipment service log

   Note: In cases where the costumer pursuing the replacements has not been operating in the facility in question for the required 18 to 24 months, or have another justifiable explanation for why they are not able to provide the required proof of cost repairs for the requisite time horizon, exceptions can be considered on a case-by-case basis, at the discretion of the Program Management Staff

For Proposed Equipment:

5. A Scope of Work [SOW]
   a. Must contain all equipment for the proposed measure(s) and sequence of operation(s) for the proposed system(s)
   b. Cooling/heating capacity of the new equipment and its efficiency rating, if applicable
      i. Supported by manufacturer’s equipment data sheets or AHRI certificate

6. A Cost Proposal
   a. Must contain cost proposals for the proposed energy efficient equipment; and
   b. Must contain cost proposals for the code-compliant equipment
      i. All cost proposals must include make and model number of the proposed equipment, on company letterhead, as provided to the customer
      ii. All cost proposal must provide to total costs associated with each measure that incentives are being pursued for, including the labor and material costs

7. An Engineering Analysis
   a. Estimated energy consumption of the existing equipment,
   b. Estimated energy consumption of the code compliant equipment and
   c. Estimated energy consumption of the new proposed energy efficient equipment
      i. Each engineering analysis must include both summer peak kW load and annual kWh usage, or the annual gas usage (in therms) for gas projects.
      ii. Each analysis must be provided in a datasheet format such as Excel with savings calculations and algorithms. Calculations in PDF format are not acceptable.
**Engineering Analysis** (Continued)

A clear and detailed engineering analysis showing energy consumption before the implementation of the proposed ECM’s and after the implementation of the proposed ECM’s, including:

a) All calculations must be provided in Microsoft Excel formal. **PDFs are not accepted.** "Copy and Pasted" analyses in Microsoft Excel will not be accepted. Please provide worksheets containing formulas and links.

b) All calculations must have a summary table depicting kWh, kW, Therms and Cost: Material, Labor, Total. Projects without cost displayed will delay the review process.

c) Calculations must clearly define the baseline energy usage and the proposed energy usage.
   a. Multiple measures to the same system should be interactive.
   b. 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. Please refer to Extended Life/Early Replacement if you meet the requirements for using existing equipment as baseline.

d) All assumptions in the analysis must be cited for reference
   a. If the assumption is based on trend data, please provide the trend data as well.
   b. Assumptions without evidence will delay the review process.

e) It is recommended to provide an explanation of the calculations used in the analysis.

f) Any project that has peak demand savings should meet the NYISO peak coincident hours as defined in the NYS TRM. According to the NYISO, system peaks generally occur during the hour ending at 5 pm on the hottest non-holiday weekday. The peak day can occur in June, July, or August, depending on the weather.

**NOTE:** It is recommended to keep calculations simple and direct as overly extensive calculations and algorithms will cause review delays. In some cases, baseline performance data may be adjusted by Willdan to reflect current NYS Code compliant performance. Willdan reserves the right to request clarification of submitted calculations. Willdan also reserves the right to adjust incentive calculations based on standard engineering methodology and equipment/building performance.