## PERFORMANCE CONTRACT

This Performance Contract (this “Agreement”) is made this 21st day of May, 2024 between:

**PARTIES**

JOHNSON CONTROLS, INC. (“JCI”)

30 Thomas Drive

Westbrook, ME. 04092

and

Town of Wiscasset Maine (“Customer”)

51 Bath Rd.

Wiscasset, ME. 04578

**RECITALS**

**WHEREAS**, Customer desires to retain JCI to perform the work specified in Schedule 1 (Scope of Work) hereto (the “Work”) relating to the installation of the improvement measures (the “Improvement Measures”) described therein; and

**WHEREAS**, Customer is authorized and empowered under applicable Laws (as defined below) to enter into this Agreement, and has taken all necessary action under applicable Laws to enter into this Agreement; and

**WHEREAS**, Customer has selected JCI to perform the Work after it determined JCI’s proposal was the most advantageous to Customer in accordance with all applicable procurement and other Laws.

**NOW, THEREFORE**, in consideration of the mutual promises set forth herein, the parties agree as follows:

**AGREEMENT**

1. **SCOPE OF THE AGREEMENT.** JCI shall perform the Work set forth in Schedule 1. After the Work is Substantially Complete (as defined below) and the Certificate of Substantial Completion is executed by Customer and JCI, JCI shall provide the assured performance guarantee (the “Assured Performance Guarantee”) and the measurement and verification services (the “M&V Services”) set forth in Schedule 2 (Assured Performance Guarantee) and/or Schedule 2A (Assured Performance Guarantee – Utility Meters), as applicable. Customer shall make payments to JCI for the Work and the M&V Services in accordance with Schedule 4 (Price and Payment Terms).
2. **AGREEMENT DOCUMENTS:** In addition to the terms and conditions of this Agreement, the following Schedules are incorporated into and shall be deemed an integral part of this Agreement:

Schedule 1 – Scope of Work

Schedule 2 – Assured Performance Guarantee

Schedule 3 – Customer Responsibilities

Schedule 4 – Price and Payment Terms

Attachment 1-Notice To Proceed

Attachment 2-Change Order

Attachment 3-Certificate of Substantial Completion

Attachment 4-Certificate of Final Completion

Attachment 5 – Building Savings Summary by Building

Attachment 6 – FIM 1 Renewable Energy – Photovoltaic (PV) Generation

Attachment 7 – FIM 2 & 3 Lighting

Attachment 8 – FIM 4 & 5 Weatherization

Attachment 9 – FIM 6 Pipe & Valve Insulation

1. **NOTICE TO PROCEED; SUBSTANTIAL COMPLETION; M&V SERVICES.** This Agreement shall become effective on the date of the last signature on the signature page below. JCI shall commence performance of the Work within ten (10) business days of receipt of Customer’s Notice to Proceed, a form of which is attached hereto as Attachment 1, and shall achieve Substantial Completion of the Work by the Substantial Completion date, which shall be the date on which Customer executes a Certificate of Substantial Completion substantially in the form attached hereto as Attachment 3.

For purposes of this Agreement, “Substantial Completion” means that JCI has provided sufficient materials and services to permit Customer to operate the Improvement Measures. The M&V Services shall commence on the first day of the month following the month in which Customer executes a Certificate of Substantial Completion and shall continue throughout the Guarantee Term, subject to earlier termination of the Assured Performance Guarantee as provided herein. Customer acknowledges and agrees that if, for any reason, it (i) cancels or terminates receipt of M&V Services, (ii) fails to pay for M&V Services in accordance with Schedule 4, (iii) fails to fulfill any of Customer’s responsibilities necessary to enable JCI to complete the Work and provide the M&V Services, or (iv) otherwise cancels, terminates or materially breaches this Agreement, the Assured Performance Guarantee shall automatically terminate and JCI shall have no liability thereunder.

1. **DELAYS AND IMPACTS.** If JCI is delayed or impacted in the commencement, performance, or completion of the Work and/or M&V Services by causes beyond its control and without its fault, including but not limited to inability to access property; concealed or unknown conditions encountered at the project, differing from the conditions represented by Customer in the bid documents or otherwise disclosed by Customer to JCI prior to the commencement of the Work; a Force Majeure Event (as defined below) condition; failure by Customer to perform its obligations under this Agreement; or failure by Customer to cooperate with JCI in the timely completion of the Work, JCI shall provide written notice to Customer of the existence, extent of, and reason for such delays and impacts. Under such circumstances, an equitable adjustment in the time for performance, price, scope and payment terms, and the Assured Performance Guarantee shall be made.
2. **ACCESS.** Customer shall provide JCI, its subcontractors, and its agents reasonable and safe access to all facilities and properties in Customer’s control that are subject to the Work and M&V Services. Customer further agrees to assist JCI, its subcontractors, and its agents to gain access to facilities and properties that are not controlled by Customer but are necessary for JCI to complete the Work and provide the M&V Services. An equitable adjustment in the time for performance, price and payment terms, and Assured Performance Guarantee shall be made as a result of any failure to grant such access.
3. **PERMITS, TAXES, AND FEES.** Unless otherwise specified in Schedule 3 (Customer Responsibilities), JCI shall be responsible for obtaining all building permits required for it to perform the Work. Unless otherwise specified in Schedule 1 (Scope of Work), Customer shall be responsible for obtaining all other permits, licenses, approvals, permissions and certifications, including but not limited to, all zoning and land use changes or exceptions required for the provision of the Work or the ownership and use of the Improvement Measures. JCI shall not be obligated to provide any changes to or improvement of the facilities or any portion thereof required under any applicable building, fire, safety, sprinkler or other applicable code, standard, law, regulation, ordinance or other requirement unless the same expressly regulates the installation of the Improvement Measures. Without limiting the foregoing, JCI’s obligations with respect to the Work is not intended to encompass any changes or improvements that relate to any compliance matters (whether known or unknown) that are not directly related to the installation of the Improvement Measures or which have been imposed or enforced because of the occasion or opportunity of review by any governmental authority. Customer shall be responsible for and shall pay when due all assessments, charges and sales, use, property, excise, or other taxes now or hereafter imposed by any governmental body or agency upon the provision of the Work or the M&V Services, implementation or presence of the Improvement Measures, the use of the Improvement Measures or payments due to JCI under this Agreement, other than taxes upon the net income of JCI. Customer shall also be responsible for real or personal property taxes relating to equipment or material included in the Improvement Measures. Any fees, taxes, or other lawful charges paid by JCI on account of Customer shall become immediately due from Customer to JCI.
4. **WARRANTY.** JCI will perform the Work in a professional, workman-like manner. JCI will promptly re-perform any non-conforming Work for no charge, as long as Customer provides written notice to JCI within one (1) year following Substantial Completion or such other period identified in Schedule 1. If JCI installs or furnishes goods or equipment under this Agreement, and such goods or equipment are covered by an end-user warranty from their manufacturer, JCI will transfer the benefits of such warranty to Customer. The foregoing remedy with respect to the Work, together with any remedy provided by goods or equipment manufacturers, shall be Customer’s sole and exclusive remedies for warranty claims. Customer agrees that the one (1) year period following Substantial Completion, or such other period identified in Schedule 1, shall be a reasonable time for purposes of submitting valid warranty claims with respect to the Work. These exclusive remedies shall not have failed of their essential purpose so long as JCI transfers the benefits of any goods or equipment end-user warranty to Customer and remains willing to re-perform any non-conforming Work for no charge within the one (1) year period described above or such other period identified in Schedule 1. NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE PROVIDED BY JCI. JCI does not guaranty that any Improvement Measures will perform in accordance with the manufacturer’s specifications over the term of this Agreement, other than with respect to the limited warranty applicable to equipment actually manufactured by JCI, or if the performance failure is related to JCI’s workmanship, each as described above. Customer’s sole remedy for failed or non-performing Improvement Measures not related to JCI’s workmanship is to pursue claims under any manufacturer’s warranty claims then in effect. This warranty does not extend to any Work that has been abused, altered, or misused, or repaired by Customer or third parties without the supervision or prior written approval of JCI. Except with respect to goods or equipment manufactured by JCI and furnished to Customer hereunder, for which JCI shall provide its express written manufacturer’s warranty, JCI shall not be considered a merchant or vendor of goods or equipment.

**8. CLEANUP.** JCI shall keep the premises and the surrounding area free from accumulation of waste materials or rubbish caused by the Work and, upon completion of the Work, JCI shall remove all waste materials, rubbish, tools, construction equipment, machinery, and surplus materials.

**9. SAFETY; COMPLIANCE WITH LAWS.** JCI shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Work and M&V Services. Each of JCI and Customer shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of public authorities (collectively, “Laws”) in connection with its performance hereunder.

1. **HAZARDOUS MATERIALS.**
2. JCI shall be responsible for removing or disposing of any JCI Hazardous Materials and for the remediation of any areas to the extent impacted by the release of JCI Hazardous Materials. For any Non-JCI Hazardous Materials, Customer shall supply JCI with any information in its possession relating to the presence of such materials if their presence may affect JCI’s performance of the Work. It is JCI’s policy to seek certification for facilities constructed prior to 1982 that no asbestos containing materials are present, and Customer shall at its own cost and expense provide such certification for buildings it owns or aid JCI in obtaining such certification from facility owners in the case of buildings that Customer does not own, if JCI will undertake Work in the facility that could disturb such asbestos containing materials. If Customer becomes aware of or suspects the presence of Non-JCI Hazardous Materials that may interfere with Work, it will immediately provide notice to JCI. Upon such notice, or if JCI becomes aware of or suspects the presence of Non-JCI Hazardous Materials that may interfere with Work, JCI shall promptly stop the Work in the affected area. As between Customer and JCI, Customer shall be responsible at its sole expense for removing and disposing of Non-JCI Hazardous Materials from its facilities and the remediation of any areas impacted by the release of Non-JCI Hazardous Materials in conformance with all applicable Laws and addressing the impact of its disturbance before JCI continues with its Work.
3. To the fullest extent permitted by Law, Customer shall indemnify and hold harmless JCI and its directors, officers, employees, agents, representatives, shareholders, affiliates, and successors and assigns, from and against any and all losses, costs, damages, expenses (including reasonable legal fees and defense costs), claims, causes of action or liability, directly or indirectly, relating to or arising from Customer’s negligent use, storage, release, discharge, handling or presence of Non-JCI Hazardous Materials (actual or alleged and regardless of the cause of such condition) on, under or about the facilities, or Customer’s failure to comply with this Article 10.
4. Definitions Applicable to this Article 10:
   1. “Hazardous Materials” – Hazardous Materials are any material or substance that, whether by its nature or use, is now or hereafter defined or regulated as a hazardous waste, hazardous substance, pollutant or contaminant under applicable Laws relating to or addressing public or employee health and safety and protection of the environment, or which is toxic, explosive, corrosive, flammable, radioactive, carcinogenic, mutagenic or otherwise hazardous or which is or contains petroleum, gasoline, diesel, fuel, another petroleum hydrocarbon product, or polychlorinated biphenyls. Hazardous Materials specifically includes without limitation mold, lead-based paint and asbestos containing materials.
   2. “JCI Hazardous Materials” – JCI Hazardous Materials are any Hazardous Materials brought onto Customer’s premises by JCI in providing the Work.
   3. “Non-JCI Hazardous Materials” – Non-JCI Hazardous Materials are any Hazardous Materials located on, about or under Customer’s premises, other than JCI Hazardous Materials.

**11. CHANGE ORDERS.** The parties, without invalidating this Agreement, may request changes in the Work to be performed under this Agreement, consisting of additions, deletions, or other revisions to the Work (“Change Orders”). The price and payment terms, time for performance and, if necessary, the Assured Performance Guarantee, shall be equitably adjusted in accordance with the Change Order. Such adjustments shall be determined by mutual agreement of the parties. JCI may delay performance until adjustments arising out of the Change Order are clarified and agreed upon. Any Change Order must be signed by an authorized representative of each party. If concealed or unknown conditions are encountered at the project, differing from the conditions represented by Customer in the bid documents or otherwise disclosed by Customer to JCI prior to the commencement of the Work, price and payment terms, time for performance and, if necessary, the Assured Performance Guarantee, shall be equitably adjusted. Claims for equitable adjustment may be asserted in writing within a reasonable time from the date a party becomes aware of a change to the Work by written notification. Failure to promptly assert a request for equitable adjustment, however, shall not constitute a waiver of any rights to seek any equitable adjustment with respect to such change.

**12. CUSTOMER FINANCING; TREATMENT; TAXES.** The parties acknowledge and agree that JCI is not making any representation or warranty to Customer with respect to matters not expressly addressed in this Agreement, including, but not limited to:

(a) Customer’s ability to obtain or make payments on any financing associated with paying for the Improvement Measures, related services, or otherwise;

(b) Customer’s proper legal, tax, accounting, or credit rating agency treatment relating to this Agreement; and

(c) the necessity of Customer to raise taxes or seek additional funding for any purpose.

Customer is solely responsible for its obligations and determinations with respect to the foregoing matters. In addition, the parties acknowledge and agree that Customer shall be responsible to comply, at its cost and expense, with all Laws that may be applicable to it relating to performance contracting, including, without limitation, any requirements relating to the procurement of goods and/or services and any legal, accounting, or engineering opinions or reviews required or obtained in connection with this Agreement.

1. **INSURANCE.** JCI shall maintain insurance in the amounts set forth below in full force and effect at all times until the Work has been completed, and shall provide a certificate evidencing such coverage promptly following Customer’s request therefor.

|  |  |
| --- | --- |
| COVERAGES | LIMITS OF LIABILITY |
|  |  |
| Workmen's Compensation Insurance or self-insurance,  including Employer's Liability | Statutory |
|  |  |
| Commercial General Liability Insurance | $5,000,000 Per Occurrence  $5,000,000 Aggregate |
|  |  |
| Comprehensive Automobile Liability Insurance | $5,000,000 Combined Single Limit |
|  |  |
| The above limits may be obtained through primary and excess policies, and may be subject to self-insured retentions. | |

Customer shall be responsible for obtaining builder's risk insurance coverage for the Improvement Measures and shall at all times be responsible for any loss or casualty to the Improvement Measures. Customer shall also maintain insurance coverage, of the types and in the amounts customary for the conduct of its business, throughout the term of this Agreement.

**14. INDEMNIFICATION.** To the fullest extent permitted by applicable Law, JCI and Customer shall indemnify (each an “Indemnifying Party”) each other (“Indemnified Party”) for all damages, losses and expenses with respect to any third-party claims against the Indemnified Party for personal injury (including death) or tangible property damage, but only to the extent such damages, losses and expenses are caused by the negligence or willful misconduct of the Indemnifying Party in fulfilling its obligations under this Agreement.

**15. LIMITATION OF LIABILITY.** Neither JCI nor Customer will be responsible to the other for any special, indirect, consequential, remote, punitive, exemplary, loss of profits or revenue, loss of use, or similar damages, regardless of how characterized and regardless of a party having been advised of the possibility of such potential losses or relief, arising in any manner from this Agreement, the Work, the Improvement Measures, the premises, the M&V Services, or otherwise. WITHOUT LIMITING JCI’S EXPRESS OBLIGATIONS UNDER THE ASSURED PERFORMANCE GUARANTEE, JCI’S liability under this agreement, regardless of the form of action, shall in no event exceed the amount of the payments actually received by jci under schedule 4. If this Agreement covers fire safety or security equipment, Customer understands that JCI is not an insurer regarding those services, and that JCI shall not be responsible for any damage or loss that may result from fire safety or security equipment that fails to prevent a casualty loss. The foregoing waivers and limitations are fundamental elements of the basis for this Agreement between JCI and Customer, and each party acknowledges that JCI would not be able to provide the work and services contemplated by this Agreement on an economic basis in the absence of such waivers and limitations, and would not have entered into this Agreement without such waivers and limitations.

**16. FORCE MAJEURE EVENTS.** Neither party will be responsible to the other for damages, loss, injury, or delay caused by Force Majeure Events. As used herein, “Force Majeure Events” are conditions that are beyond the reasonable control and without the intentional misconduct or negligence of a party, either foreseeable or unforeseeable, including, without limitation, severe weather, flooding, seismic disturbances, acts of God, acts or omissions of government agencies, condemnation, strikes, labor disputes, epidemics, pandemics, disease, quarantines or other public health risks and/or responses, fires, explosions or other casualties, thefts, vandalism, riots or war, acts of terrorism, electrical power outages, interruptions or degradations in telecommunications, computer, or electronic communications systems, changes in Laws, data breach, cyber-attacks, ransomware, or unavailability, delayed delivery or an increase of 5% or more in cost of any parts, materials or supplies to be used in the project between date of contract and date of installation. If a party is delayed in achieving one or more of its schedule milestones set forth in the Agreement due to a Force Majeure Event, the affected party will be entitled to extend the relevant completion date by the magnitude of the Force Majeure Event plus additional time to overcome the effect of the delay. If the Force Majeure Event directly or indirectly increases JCI’s cost to perform, Customer is obligated to reimburse JCI for such increased costs.

**17. JCI'S PROPERTY.** All materials furnished or used by JCI personnel and/or JCI subcontractors or agents at the installation site, including documentation, schematics, test equipment, software and associated media remain the exclusive property of JCI or such other third party. Customer agrees not to use such materials for any purpose at any time without the express authorization of JCI. Customer agrees to allow JCI personnel and/or JCI subcontractors or agents to retrieve and to remove all such materials remaining after installation or maintenance operations have been completed. Customer acknowledges that any software furnished in connection with the Work and/or M&V Services is proprietary and subject to the provisions of any software license agreement associated with such software.

**18. DISPUTES.** JCI and Customer will attempt to settle any controversy, dispute, difference, or claim between them concerning the performance, enforcement, or interpretation of this Agreement (collectively, “Dispute”) through direct discussion in good faith, but if unsuccessful, will submit any Dispute to non-binding mediation in the nearest major metropolitan area of the state where the project is performed. If the parties are unable to agree on a mediator or a date for mediation, either party may request JAMS, Inc. to appoint a mediator and designate the time and procedure for mediation. Such mediator shall be knowledgeable, to each party’s reasonable satisfaction, with respect to matters concerning construction law. Neither JCI nor Customer will file a lawsuit against the other until not less than sixty (60) days after the mediation referred to herein has occurred, unless one or both parties is genuinely and reasonably concerned that any applicable statute of limitations is on the verge of expiring. JCI AND CUSTOMER HEREBY WAIVE THEIR RESPECTIVE RIGHTS TO A JURY TRIAL AS TO ANY CLAIM OR CAUSE OF ACTION BASED UPON, ARISING OUT OF OR DIRECTLY OR INDIRECTLY RELATED TO THIS AGREEMENT, INCLUDING CONTRACT, TORT AND STATUTORY CLAIMS, AND EACH OF THE PARTIES HERETO ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THIS WAIVER IN ENTERING INTO THIS AGREEMENT, AND THAT EACH WILL CONTINUE TO RELY ON THIS WAIVER IN THEIR RELATED FUTURE DEALINGS UNDER THIS AGREEMENT.

**19. GOVERNING LAW.** This Agreement and the construction and enforceability thereof shall be interpreted in accordance with the laws of the state where the Work is conducted.

**20. 179D BENEFITS.** As a result of JCI’s design and implementation of this Project, a federal income tax deduction under Section 179D of the Internal Revenue Code (“IRC 179D”) may become available to JCI as the party primarily responsible for designing energy efficiency improvements implemented at Customer’s facilities.  Congress provided in IRC 179D(d)(4) for government owners, which do not pay income tax and are thus ineligible to use this deduction, to allocate the deduction to the party primarily responsible for designing the energy efficiency improvements, here JCI.  Customer hereby agrees to allocate to JCI such deduction and any similar deduction enacted by Congress to replace IRC 179D.  Customer shall cooperate with JCI by executing annually, during the term of this Agreement, and promptly returning to JCI, a written allocation and declaration required by IRC 179D.  JCI will prepare and is responsible for the accuracy of any allocation documents and all accompanying documentation provided for Customer’s execution.  Notwithstanding anything to the contrary herein, Customer makes no representation concerning the availability or applicability of any such tax deduction benefits or of their ability to be allocated to or claimed by JCI.  JCI assumes all risk related to such allocation and deduction.

**21. CONSENTS; APPROVALS; COOPERATION**. Whenever Customer’s consent, approval, satisfaction or determination shall be required or permitted under this Agreement, and this Agreement does not expressly state that Customer may act in its sole discretion, such consent, approval, satisfaction or determination shall not be unreasonably withheld, qualified, conditioned or delayed, whether or not such a “reasonableness” standard is expressly stated in this Agreement. Whenever Customer’s cooperation is required by JCI in order to carry out JCI’s obligations hereunder, Customer agrees that it shall act in good faith and reasonably in so cooperating with JCI and/or JCI’s designated representatives or assignees or subcontractors. Customer shall furnish decisions, information, and approvals required by this Agreement in a timely manner so as not to delay the performance of the Work or M&V Services.

**22. FURTHER ASSURANCES.** The parties shall execute and deliver all documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Agreement.

**23. INDEPENDENT CONTRACTOR.** The relationship of the parties hereunder shall be that of independent contractors. Nothing in this Agreement shall be deemed to create a partnership, joint venture, fiduciary, or similar relationship between the parties.

**24.** **POWER AND AUTHORITY.** Each party represents and warrants to the other that (i) it has all requisite power and authority to execute and deliver this Agreement and perform its obligations hereunder, (ii) all corporate, board, body politic, or other approvals necessary for its execution, delivery, and performance of this Agreement have been or will be obtained, and (iii) this Agreement constitutes its legal, valid, and binding obligation.

**25. SEVERABILITY.** In the event that any clause, provision, or portion of this Agreement or any part thereof shall be declared invalid, void, or unenforceable by any court having jurisdiction, such invalidity shall not affect the validity or enforceability of the remaining portions of this Agreement unless the result would be manifestly inequitable or materially impair the benefits intended to inure to either party under this Agreement.

**26. COMPLETE AGREEMENT.** It is understood and agreed that this Agreement contains the entire agreement between the parties relating to all issues involving the subject matter of this Agreement. No binding understandings, statements, promises or inducements contrary to this Agreement exist. This Agreement supersedes and cancels all previous agreements, negotiations, communications, commitments and understandings with respect to the subject matter hereof, whether made orally or in writing. Each of the parties to this Agreement expressly warrants and represents to the other that no promise or agreement which is not herein expressed has been made to the other, and that neither party is relying upon any statement or representation of the other that is not expressly set forth in this Agreement. Each party hereto is relying exclusively on the terms of this Agreement, its own judgment, and the advice of its own legal counsel and/or other advisors in entering into this Agreement. Customer acknowledges and agrees that any purchase order issued by Customer associated with this Agreement is intended only to establish payment authority for Customer’s internal accounting purposes. No purchase order shall be considered a counteroffer, amendment, modification, or other revision to the terms of this Agreement.

**27. HEADINGS.** The captions and titles in this Agreement are for convenience only and shall not affect the interpretation or meaning of this Agreement.

**28. COUNTERPARTS.** This Agreement may be executed in any number of counterparts, all of which when taken together shall constitute one single agreement between the parties.

**29. NOTICES.** All notices or communications related to this Agreement shall be in writing and shall be deemed served if and when sent by facsimile or mailed by certified or registered mail: to JCI, Inc. at the address listed on the first page of this Agreement, ATTN: Regional Solutions Manager, with a copy to JCI, Inc., ATTN: General Counsel – Building Efficiency Americas, 507 East Michigan Street, Milwaukee, Wisconsin, 53202: and to Customer at the address listed on the first page of this Agreement.

**30.** **SOFTWARE AND DIGITAL SERVICES.** Use, implementation, and deployment of software and hosted software products proprietary to JCI (“Software”) offered under this Agreement shall be subject to, and governed by, JCI’s standard terms for such Software and Software related professional services in effect from time to time at <https://www.johnsoncontrols.com/techterms> (collectively, the “Software Terms”). Applicable Software Terms are incorporated herein by this reference. Other than the right to use the Software as set forth in the Software Terms, JCI and its licensors reserve all right, title, and interest (including all intellectual property rights) in and to the Software and improvements to the Software. The Software that is licensed hereunder is licensed subject to the Software Terms and not sold. If there is a conflict between the other terms herein and the Software Terms, the Software Terms shall take precedence and govern with respect to rights and responsibilities relating to the Software, its implementation and deployment and any improvements thereto.

**Town of Wiscasset Maine** **JOHNSON CONTROLS, INC.**

Signature: Signature:

Printed Name: Printed Name:

Title: Title:

Date: Date:

**SCOPE OF WORK**

**Table 1.1 Buildings**

|  |  |  |
| --- | --- | --- |
| Building | Address | Facility Area (SF) |
| Wiscasset Middle/High School | 272 Gardiner Rd, Wiscasset, ME. | 72,500 |
| Wiscasset Elementary School | 83 Federal St,. Wiscasset, ME. | 53,400 |
| Town Offices | 51 Bath Rd., Wiscasset, ME. | 16,500 |
| Dept. Public Works (DPW) | 42 Hodge St., Wiscasset, ME. | 12,810 |
| Community Center | 242 Gardiner Rd, Wiscasset, ME. | 30,600 |
| Transfer Station | 78 Fowell Hill Rd., Wiscasset, ME. | 20,000 |
| Airport | 96 Chewonki Rd., Wiscasset, ME. | 5,400 |

## SUMMARY OF MEASURES

Table 1.2 summarizes the Facility Improvement Measures (FIMs) included in the Energy Performance Contract for the Customer facilities listed in Table 1.1 Buildings.

Table 1.2 FIMs

A table with text and symbols

Description automatically generated with medium confidence

Note: FIM 5-Attic Insulation for the Transfer Station & Airport is encompassed under weatherization in the FIM 4 & 5 descriptions below

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1. JCI will provide submittals of the materials and equipment to be installed in the scopes of work for review by Customer.
2. The Customer will provide JCI with a timely response to requests for approval for material to be used in Schedule 1.
3. The Customer will provide all required Ethernet drops and IP Addresses as needed for the FIM’s requiring internet access.
4. JCI and its subcontractors will acquire necessary permits and inspections for work done under this Agreement
5. Correction of any existing applicable building code violations identified by JCI during the execution of the Work are excluded unless specifically noted in this scope of work.

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### FIM-1 Renewable Energy – Photovoltaic(PV) Generation

JCI shall install new photovoltaic electrical generation systems that will interconnect with the existing electrical distribution systems at each location noted.

Reference Attachment 6 Solar PV, Preliminary Solar PV Designs and Production Reports

**Scope of Work**

Subject to JCI civil engineering review, JCIwill furnish and install equipment, engineering, materials, permitting, and labor for two (2) Solar PV ground mounted systems indicated in table 1.3

**Table 1.3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Building** | **Location** | **kWac** | **kWdc** | **Type** |
| Wiscasset Middle/High School | 272 Gardiner Rd. | 125 | 158.1 | Ground Mounted |
| Community Center | 242 Gardiner Rd. | 187.5 | 203.6 | Ground Mounted |
| **Total** |  | **312.5** | **361.7** |  |

In the event that the geotechnical/ground evaluations, regulatory, and/or utility constraints require a change in the capacity of the equipment to be installed as part of the Work provided in connection with this FIM, JCI and Customer agree that the price to be paid for the Work set forth on Schedule 4 and Measured Energy Cost Avoidance shall be adjusted on a pro rata basis based on the number of kWdc that are changed as part of the FIM In such event JCI and Customer agree that the Agreement shall be automatically adjusted by JCI as appropriate to effect the changes in the prior sentence without the need to amend this Agreement, provided that JCI will provide Customer with a written summary of such changes, showing cost and savings impacts.

1. **Pre-Construction**
   1. PV production analysis of each proposed location.
   2. Design engineering and PV system sizing.
   3. Geotechnical analysis for ground mounted structural supports.
   4. Prepare Utility Interconnection application and related documentation, and coordination to achieve interconnection pre-approval.
2. **Installation**
   1. Furnish and install all structural supports and racking for ground mounted solar PV systems
   2. Provide all excavation, underground cabling, and site restoration for ground mounted solar PV systems.
   3. Furnish and install JA Solar (or equivalent) solar modules
   4. Furnish and install Solar Edge, SMA Inverters (or equivalent) and accompanying supports.
   5. Perform necessary electrical, mechanical, and structural testing and inspections
   6. Furnish and install one web-based Data Acquisition System service with a centrally located pyranometer, including revenue grade electrical metering.
   7. Furnish and install revenue grade kWh metering for the High School & Community Center.
   8. Five (5)-year web-based monitoring service (included), may be extended by Customer after year five (5).
   9. Furnish necessary wiring and conduit, including interconnection metering requirements.
   10. Coordinate interconnection related activities with Utility in order to achieve authority to interconnect.
   11. Test completed systems, including protocol to achieve authority to interconnect.
   12. Work shall comply with state and local codes and regulations and with the latest edition of applicable standards, codes, and specifications in effect at the time of contract signing.
   13. Conduct training (8 hours) for designated personnel in the maintenance and care of the systems.
3. **Clarifications**
   1. JCI does not include any upgrades or modifications to line side of utility meter. All interconnections are on the Customer’s (load) side of meter.
   2. Prior to Grid connection, one power outage will be required for final electrical tie-ins at each site. Work will be scheduled during unoccupied periods. No temporary power will be provided
   3. JCI will prepare and submit applications for Interconnection with the Utility. Work will commence only after Utility approval.
   4. JCI will complete post installation documentation for interconnection and net-metering.
   5. Customer is responsible for providing cell service to monitor the solar PV system performance for the term of the contract.
   6. JCI does not include any resolution of existing design, service, and or distribution conditions known or unknown or any existing code issues
   7. Repair or replacement of defective electrical equipment and electrical distribution system is excluded, except the equipment described in the Scope of Work (Defective equipment identified by JCI during implementation of the Scope of Work will be brought to the attention of the Customer)
   8. JCI does not anticipate and has not included any hard digging (i.e. no blasting or rock removal). All trenching to be performed by normal means (Case 580 backhoe). Should additional means of excavation be required then JCI shall notify the Owner to mitigate or address at additional cost;
   9. Relocation of underground utilities is excluded.

### FIM 2 & 3- Lighting Retrofit

JCI will install new high efficiency LED lighting. JCI has performed a lighting survey. A lighting Line-by Line of the survey is included as Attachment 7.

**Facilities Included**:

* Town Offices-Emergency
* Community Center
* Public Works
* Transfer Station
* Airport
* Town Offices
* Elementary School

1. **Description of Work**
   1. A total of (407) new LED Fixtures-Kits/Flat Panels/TLEDs/Re-Lamps are included in this proposal.
   2. A total of (100) 2x4, 2x2 and 1x4 recessed troffers fixtures, in drop ceilings in classrooms, offices, cafeterias and libraries, are to be retrofitted with an LED retrofit “door kit” or a new LED fixture when the fixture style does not allow the “door kit”. The LED “door kit” is a “new fixture *in a fixture*” retrofit where the new fixture goes into the old fixture body avoiding the dirt and mess of removing an old fixture out of a ceiling. The finished look will appear to be a completely new fixture when done.
   3. Additionally (57) fixtures surface mounted on drop ceiling will be replaced with flat panels. The new LED fixtures or kits will both have a built-in, combination occupancy and daylight sensor that can be grouped and programmed to the optimal light level of the occupant. Areas that get either of these upgrades will have dimming switches installed to allow for more flexibility in the control of the lighting.
   4. Non-troffer fixtures and troffer fixtures in hard ceiling or low use areas like storage closets will have their existing T8 and T5 lamps replaced with new T8 and T5 LED tubes (TLEDs), which will include replacing the existing ballasts. A total of (113) fixtures were identified for making the conversion to the new TLED tubes. The TLED technology has improved in quality and performance over the past few years, averaging less than half the wattage for the equivalent light output while doubling the life of the lamp over the fluorescent counterparts.
   5. There are (27) new LED High Bay fixtures to be installed. These fixtures will also have built-in, combination occupancy and daylight sensors.

Existing fixtures currently equipped with incandescent or CFLs will be replaced with LED lamps of appropriate style and configuration to maintain or improve the current illumination level.

1. **Clarifications**
   1. Repair or upgrades required to rectify existing lighting or electrical system code violations unless specifically described in this scope of work are excluded.
   2. Repair or replacement of defective equipment, other than the equipment specifically described above is excluded. JCI will identify the location of defective equipment and notify the owner
   3. Reconfiguration of existing lighting system layout, is excluded, except where noted herein
   4. Repair, replacement or upgrade of existing indoor or exterior emergency and/or egress lighting system unless otherwise noted in the Scope of Work is excluded.
   5. Repair or replacement of cracked, broken, missing, yellowed, or damaged fixture lenses or louvers unless otherwise noted in the Scope of Work is excluded.
   6. Lighting fixtures not identified in the FIM Scope of Work are excluded from any repair or replacement scope;
   7. Reconfiguration of existing lighting system layout is excluded, except where noted herein;
   8. Conformance to IESNA standards is excluded if the existing layout does not comply with same;
   9. Repair, replacement, or calibration of damaged or defective motion sensors, time clocks, switches, breakers, and wiring unless otherwise noted in the Scope of Work is excluded;
   10. Repair, replacement or upgrade of existing indoor or exterior emergency and/or egress lighting system unless otherwise noted in the Scope of Work is excluded;
   11. Replacement of defective emergency battery backup ballasts unless otherwise noted the Scope of Work is excluded;
   12. Repair or upgrades required to rectify existing lighting or electrical system code violations unless specifically described in this scope of work
   13. JCI Workmanship is warranted for 1 year from date of substantial completion.
       1. LED tubes will have a 5-year warranty.
       2. Ballasts/Drivers will have a 5-year extended warranty.
       3. Fixtures will be warranted for 1 year from date of installation.

FIM 4 & 5 Weatherization

All locations were surveyed for the application of this measure. Energy is lost from various leakages throughout the buildings due to infiltration. The heat losses and heat gains occur due to gaps and openings that allow the building’s conditioned (heated or cooled) air to mix with the outside ambient air. This measure will seal these leaks.

**Facilities Included**

* Airport
* Community Center
* Elementary School
* High School
* Public Works
* Town Offices
* Transfer Station

Table 1.4 summarizes Building Envelope improvements at the facilities noted above

**Table 1.4**

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**Specific tasks noted in table 1.4 are described below:**

1. Door Weather Stripping – Deteriorated weather-stripping materials, ineffective weather-stripping installation and daylight showing at the perimeter of door systems create direct pathways for unwanted infiltration/ exfiltration throughout the buildings. Replace deteriorated weatherstripping
2. Overhead Door Weather Stripping – remove existing weather stripping and replace with new commercial grade weather stripping to create a full air seal around the door.

Roof/Attic Insulation – The ceiling of the Transfer Station office is not insulated resulting in excessive heat loss. The current setup makes it difficult to maintain comfortable building temperatures with the poor R-value at the current ceiling assembly. JCI proposes to install 2” poly-isocyanurate rigid board insulation which will be installed on the Transfer Station roof. The rigid insulation to create an air barrier and continuity of insulation over wall area. Seal perimeter and seams of rigid insulation with sealant tape.

1. Roof-Wall Intersection Air Sealing – the roof-wall intersection is regularly an area that allows unwanted air leakage through the building shell. This is a significant area of unwanted air leakage throughout the buildings within the scope of work. Exterior flashing and finish details at this area are not constructed to stop air leakage (exterior flashings are for water control, not air control); unsealed exterior flashing details combine with interior gaps in the framing between the roof and wall assembly to allow infiltration/ exfiltration. JCI will install a bead of high-density spray foam or sealant to block the air leakage pathway.
2. Unit Ventilator Air Sealing – the exterior air intake and grate-collar assembly is poorly insulated/sealed which is improperly directing outside air to the unit ventilator fan-coil. Air is finding its way around the fan coil unit leaking directly into the building resulting in increased energy usage due to air infiltration and exfiltration. JCI will install nine (9) unit ventilator retrofit kits at the high school.
3. Wall Air Sealing/ Wall Insulation – a wall assembly that does not have an effective air barrier in place allows unnecessary air leakage losses. Areas of poorly insulated and sealed wall assembly create a bypass for air leakage and heat loss that force the heating and cooling systems to work harder than necessary. The attic wall/ level change at the perimeter of the 3rd floor open office area is a weakness in the air and insulation barrier separating the conditioned space from the unconditioned attic. JCI will install poly-isocyanurate rigid insulation to create an air barrier and continuity of insulation over wall area. JCI will seal perimeter and seams of rigid insulation with sealant tape.

**Clarifications**

1. Repair or replacement of existing exterior doors and windows is excluded unless otherwise noted above. If any doors are found to be inoperable, or windows are found to be broken, JCI will report the deficiency to the customer for repair or replacement prior to JCI retrofitting the seals.
2. Modifications required to due to existing code violations, including but not limited to the Americans with Disabilities Act (ADA) and egress, are the responsibility of the customer.
3. The scope of work does not include repair or adjustment of any springs or opening mechanisms except as described above.
4. Repair or replacement of existing brick, masonry block or split face block is excluded in this scope of work.
5. Repair or replacement of existing attic space including rafters, roof decking, ceiling or roof areas is excluded in this scope of work
6. Cutting, patching, sealing and painting other than as described in the FM scope is excluded.
7. The scope of work does not include the repair or installation of any structural systems.

FIM-6 Pipe & Valve Insulation

JCI will insulate the exposed piping and valves in locations identified in Table 1.4. The insulation will prevent the loss of heat from the pipes, thereby saving boiler energy as well as reducing overheating conditions in adjacent spaces.

**Facilities Included**

* Community Center
* Town Offices
* Elementary School
* High School

1. **Scope of Work** 
   1. Furnish and Install insulation on uinsulated pipes, valves, and appurtenances as indicated in Table 1.5
   2. Pipe insulation shall be cellular glass and pre-formed fiberglass with protective all-service jacketing, with R-Value to meet current energy code guidelines in effect at the time of contract signing.
   3. Valves and flanges insulated with custom fabricated removable insulation blankets.
   4. Tanks insulated with fiberglass pipe & tank wrap, covered with all-service protective jackets.

**Table 1.5**A blue and white chart with text

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1. **Clarifications**
   1. Asbestos abatement and hazardous material remediation is excluded except as described in Article 10
   2. Repairs/replacement of piping and piping ancillaries found to be corroded or rusted or otherwise unacceptable for installation of the insulation other than what is specified in the Scope of Work are excluded.

FIM-7 -Hot Water Reset

JCI will furnish & install a new Tekmar control panel to replace the existing Tekmar control panel . The Tekmar control system will provide a hot water reset control strategy based upon outside air for the Town Offices for the existing systems presently on the Tekmar control system. All existing wiring, sensors, and valves to remain.

**ASSURED PERFORMANCE GUARANTEE**

**I. PROJECT BENEFITS**

**A. Certain Definitions.** For purposes of this Agreement, the following terms have the meanings set forth below:

**Annual Project Benefits** are the portion of the projected Total Project Benefits to be achieved in any one year of the Guarantee Term.

**Annual Project Benefits Realized** are the Project Benefits actually realized for any one year of the Guarantee Term.

**Annual Project Benefits Shortfall** is the amount by which the Annual Project Benefits exceed the Annual Project Benefits Realized in any one year of the Guarantee Term.

**Annual Project Benefits Surplus** is the amount by which the Annual Project Benefits Realized exceed the Annual Project Benefits in any one year of the Guarantee Term.

**Baseline** is the mutually agreed upon data and/or usage amounts that reflect conditions prior to the installation of the Improvement Measures as set forth in Section IV below.

**Guarantee Term** will commence on the first day of the month next following the Substantial Completion date and will continue through the duration of the M&V Services, subject to earlier termination as provided in this Agreement.

**Installation Period** is the period beginning on JCI’s receipt of Customer’s Notice to Proceed and ending on the commencement of the Guarantee Term.

**Measured Project Benefits** are the utility savings and cost avoidance calculated in accordance with the methodologies set forth in Section III below.

**Non-Measured Project Benefits** are identified in Section II below. The Non-Measured Project Benefits have been agreed to by Customer and will be deemed achieved in accordance with the schedule set forth in the Total Project Benefits table below. Customer and JCI agree that: (i) the Non-Measured Project Benefits may include, but are not limited to, future capital and operational costs avoided as a result of the Work and implementation of the Improvement Measures, (ii) achievement of the Non-Measured Project Benefits is outside of JCI’s control, and (iii) Customer has evaluated sufficient information to conclude that the Non-Measured Project Benefits will occur and bears sole responsibility for ensuring that the Non-Measured Project Benefits will be realized. Accordingly, the Non-Measured Project Benefits shall not be measured or monitored by JCI at any time during the Guarantee Term, but rather shall be deemed achieved in accordance with the schedule set forth in the Total Project Benefits table below.

**Project Benefits** are the Measured Project Benefits plus the Non-Measured Project Benefits to be achieved for a particular period during the term of this Agreement.

**Total Project Benefits** are the projected Project Benefits to be achieved during the entire term of this Agreement.

**B. Project Benefits Summary.** Subject to the terms and conditions of this Agreement, JCI guarantees that Customer will achieve a total of $2,485,903 in Utility Cost Avoidance and $37,200 in Operations and Maintenance Cost Avoidance. Customer should receive $554,150 in Rebates/IRA Direct Pay but will not be guaranteed -however is included in the table to show the potential for Total Project Benefits of $3,077,252 as set forth in the Total Project Benefits Table below.

**Total Project Benefits**



\* Utility Cost Avoidance is a Measured Project Benefit. Utility Cost Avoidance figures in the table above are based on anticipated 4% increase in unit energy costs as set forth in the Baseline Energy Rate tables.

\*\* Operation & Maintenance (O&M) Project Benefit. O&M Cost Avoidance figures in the table will be non-measured and deemed as achieved once the project is implemented.

\*\*\*Timing and nature of Customer’s receipt of Non-Guaranteed Non-Recurring Benefits including ITC Direct Pay are subject to considerations specified in Exhibit 4 of this Schedule and are indicative.

Within sixty (60) days of the commencement of the Guarantee Term, JCI will calculate the Measured Project Benefits achieved during the Installation Period plus any Non-Measured Project Benefits applicable to such period and advise Customer of same. Any Project Benefits achieved during the Installation Period may, at JCI’s discretion, be allocated to the Annual Project Benefits for the first year of the Guarantee Term. Within sixty (60) days of each anniversary of the commencement of the Guarantee Term, JCI will calculate the Measured Project Benefits achieved for the applicable year plus any Non-Measured Project Benefits applicable to such period and advise Customer of same.

***Customer acknowledges and agrees that if, for any reason, it (i) cancels or terminates receipt of M&V Services, (ii) fails to pay for M&V Services in accordance with Schedule 4, (iii) fails to fulfill any of its responsibilities necessary to enable JCI to complete the Work and provide the M&V Services, or (iv) otherwise cancels, terminates or materially breaches this Agreement, the Assured Performance Guarantee shall automatically terminate and JCI shall have no liability hereunder.***

**C. Project Benefits Shortfalls or Surpluses.**

1. *Project Benefits Shortfalls*. If an Annual Project Benefits Shortfall occurs for any one year of the Guarantee Term, JCI shall, at its discretion and in any combination, (a) set off the amount of such shortfall against any unpaid balance Customer then owes to JCI, (b) where permitted by applicable law, increase the next year’s amount of Annual Project Benefits by the amount of such shortfall, (c) pay to Customer the amount of such shortfall, or (d) subject to Customer’s agreement, provide to Customer additional products or services, in the value of such shortfall, at no additional cost to Customer.\*
2. *Project Benefits Surpluses*. If an Annual Project Benefits Surplus occurs for any one year of the Guarantee Term, JCI may, at its discretion and in any combination, (a) apply the amount of such surplus to set off any subsequent Annual Project Benefit Shortfall during the Guarantee Term, or (b) bill Customer for the amount of payments made pursuant to Section C(i)(c) above and/or the value of the products or services provided pursuant to clause C(i)(d) above, in an amount not to exceed the amount of such surplus.\*
3. *Additional Improvements*. Where an Annual Project Benefits Shortfall has occurred, JCI may, subject to Customer’s approval (which approval shall not be unreasonably withheld, conditioned, or delayed), implement additional Improvement Measures, at no cost to Customer, which may generate additional Project Benefits in future years of the Guarantee Term.

\*In the event JCI is providing an Assured Performance Guarantee under Schedule 2 and Schedule 2A, Annual Project Benefits Shortfalls and Annual Project Benefits Surpluses under each such Schedule shall be reconciled against one another.

**PROJECT UTILITY COST AVOIDANCE BENEFITS**

The Utility Cost Avoided Benefits shall change each year of the Guarantee Term based on the applied utility rates as defined in the Baseline Calculation and Utility Rates in Schedule 2, Section IV. Table 2.2 is a summary of the utility cost avoidance by FIM for the first year.

**Table 2.2**



Table 2.3 is a summary of the cost avoidance by Facility for the first year

**Table 2.3**



**Operational & Maintenance (O&M) Cost Avoidance**

The O&M savings are based on the scope of work as well as discussions with the customer. Customer agrees that the O&M Project Benefit are reasonable and supportable, and that the installation of the lighting will enable the customer to take actions that will result in the achievement of such O&M Project Benefits.

Lighting material savings result from savings due to older lighting systems having to be replaced frequently. New LED lighting equipment with longer rated life expectancy (as compared to existing lighting technology) will result in lighting cost avoidance.



**Non-Recurring Non-Guaranteed Benefits:**

**Utility Rebates: $6,795**

JCI will assist the Customer in applying for rebate incentives. This includes submitting application forms and data on behalf of the Customer and following up with the program administrators to answer any questions or provide additional information. **Note: Rebates are not guaranteed**.

**IRA Direct Pay**

**ITC Direct Payment under IRA:**

**Incentives: $547,355**

JCI and Customer acknowledge that the Solar PV FIMs are eligible for the Investment Tax Credit (ITC) under the Inflation Reduction Act (IRA). The IRA allows for certain tax-exempt entities, like Customer, to elect to receive direct payment from the federal government in exchange for credits like the ITCs.

JCI shall assist the Customer, as reasonably requested, in providing information about Project implementation for claiming an ITC and securing a direct payment. The submittal and contents of documentation to claim an ITC and secure a direct payment, including but not limited to, pre-registration, tax, or compliance documentation, are the responsibility of Customer. Customer acknowledges that it is responsible for computing and verifying the ultimate ITC amount. The Parties acknowledge that JCI will not provide tax, accounting, legal, or municipal security advice. All funds received from an ITC direct payment as a result of the Project, including amounts in excess of the estimated value, shall be included in the Annual Project Benefits Realized.

Customer shall be entitled to an ITC of at least $547,355 attributable to implementation of the FIMs as specified in this Agreement, provided that Customer timely satisfies its responsibilities and conditions to eligibility under this Agreement, the IRA, and other applicable law, and subject further to an equitable adjustment in the event of any material changes in scope or law, including without limitation new or changed interpretations of law and administrative guidance; third-party or inter-governmental delays, acts, or omissions; or revised appropriation of funds by the federal government. For avoidance of doubt, JCI is not responsible for delays in Customer’s receipt of a direct payment, ITC recapture, unavailability of federal funds, or changes in the ITC program or other laws, regulations, guidance, or interpretations that occur after the effective date of this Agreement. Customer agrees to take such action necessary for achievement of an ITC direct payment as a result of the Project and provide JCI information regarding Customer’s receipt of ITC funds upon request for measurement and verification. Customer acknowledges that its receipt of an ITC direct payment as a result of the Project, may vary from estimated amounts based on factors that include, without limitation, Customer’s eligibility for bonus amounts, use of tax-exempt financing, and forthcoming federal guidance, which are not the responsibility of JCI.

**II. MEASUREMENT AND VERIFICATION METHODOLOGIES**

*The following is a brief overview of the measurement and verification methodologies applicable to the Improvement Measures set forth below. JCI shall apply these methodologies, as more fully detailed in the guidelines and standards of the 2016 International Measurement and Verification Protocol (IPMVP) in connection with the provision of M&V Services hereunder.*

Option A

Partially Measured Retrofit Isolation

Measured Project Benefits are determined by partial field measurement of the energy use of the system(s) to which an Improvement Measure was applied separate from the energy use of the rest of the facility. Measurements will be short-term with only one-time measurements before and after the Installation Period.

Partial measurement means that some but not all parameters will be measured. Careful review of the design and installation of Improvement Measures is intended to demonstrate that the stipulated values fairly represent the probable actual values. Agreed-upon values will be shown in the measurement and verification plan, along with analysis of the significance of the error they may introduce. Engineering calculations using short-term pre and post-retrofit measurements and stipulations are used to calculate Measured Project Benefits for the duration of the Guarantee Term.

Measured Project Benefits from the following Improvement Measures will be calculated using Option A:

**Table 2.4**



**Lighting ECMs: FIM -2** **Interior Lighting, FIM -3 Exterior Lighting**



Existing interior and exterior lighting equipment at various locations within the City’s buildings will be upgraded to improve lighting equipment efficiency (i.e. using less energy to produce similar light output). The lighting retrofit design incorporates energy efficient LED lamps, ballasts, and fixtures where the existing fixture warrants a replacement.

**Measurement & Verification Plan (One-time)**

*Pre-Installation:* JCI completed a detailed audit of the lighting equipment in each building and quantified fixture wattage power use in kilowatts (kW) using available nameplate information as well as taking wattage measurements on a representative sample of fixtures at each facility. Annual Burn Hours (ABH) for interior lighting usage groups (i.e. classrooms, offices, hallways) and annual kW was determined through source documentation and customer.

*Post-Installation:* Verify that approved scope of work has been completed. Record any changes to the scope and adjust savings based on as-built lighting. On interior lighting equipment, perform a one-time post installation circuit wattage measurement on a representative sample of installed interior fixture combinations where a quantity of 50 or more of the same type of fixtures will be tested using a 90% confidence and 20% precision level (see Table 2.5 for sample size guidelines). Use post retrofit wattage measurement to adjust savings estimates for all like fixtures, adjusted savings values will be used in post retrofit calculations. Savings will be based on engineering calculations and audit consumption details in Attachment 1 Lighting Line by Line.

*Duration of Measurement/Verification:* One-time pre/post instantaneous measurement

**Sample Size Determinations**

Minimum post installation sample sizes will be either the sample size listed in Table 2.5 or the sample sizes will be large enough to achieve 90% confidence & 20% precision. JCI will execute wattage sampling from logical project site groupings and/or usage groups rather than individual building level sampling. See Table 2.5 below for sample size determinations.

**Table 2.5: Sample Size Estimation Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Precision** | **20%** | **Precision** | **20%** |
| **Confidence** | **90%** | **Confidence** | **90%** |
| **Z-Statistic** | **1.645** | **Z-Statistic** | **1.645** |
| **Population Size, N** | **Sample Size, n\*** | **Population Size, N** | **Sample Size, n\*** |
| 4 | 4 | 60 | 14 |
| 8 | 6 | 70 | 14 |
| 12 | 8 | 80 | 15 |
| 16 | 9 | 90 | 15 |
| 20 | 10 | 100 | 15 |
| 25 | 11 | 125 | 15 |
| 30 | 11 | 150 | 16 |
| 35 | 12 | 175 | 16 |
| 40 | 12 | 200 | 16 |
| 45 | 13 | 300 | 17 |
| 50 | 13 | 400 | 17 |

Note: The coefficient of variation in the above table is estimated to be 0.5. If the actual coefficient of variation is smaller, sample sizes may be reduced (as long as 90% confidence & 20% precision is met).

**Existing/Proposed Burn Hours:**

Annual Burn Hours (ABH) is a parameter that is mutually agreed upon and is defined as the number of hours the lighting equipment operates each year. In the calculations, ABH was determined through discussion with Facilities personnel and site observation during the audit. These values are used to calculate savings for the upgrade. For the purposes of this agreement, the Existing/Proposed (i.e. pre-retrofit/post retrofit) values in the lighting audit shall be deemed as the floor-annual-burn-hours (i.e. the ABH shall never go below the usage group floor values).

**Lighting Savings Calculations**

JCI will use the unit Incremental Electrical Energy ($/kWh) rate (IER) and Demand Rate ($/kW) (DR), as defined in the Baseline Calculations and Utility Rates section of this document, to calculate avoided energy cost savings.

The following formulas represent the basis for calculating energy savings as described in the lighting calculations:

**Demand Savings (kW) (Interior Only):**

***Connected kW Saving = u [ (Ann. kW/Fixturebaseline x Quantitybaseline – Ann. kW/Fixturepost x Quantitypost)]u***

*where*:

|  |  |
| --- | --- |
| Ann. kW/fixturebaseline = | lighting baseline demand per fixture type for usage group u x months/year |
| Ann. kW/fixturepost = | lighting demand per fixture type during post-installation period for usage group x months/year |
| Quantitybaseline = | quantity of affected fixtures before the lighting retrofit for usage group u |
| Quantitypost = | quantity of affected fixtures after the lighting retrofit for usage group u |

**Energy Savings (kWh):**

***kWh Savings (Lighting) = u [ Connected kW Savingsu x ABH(Usage Group) ]u***

***kWh Savings Occupancy Sensors = (ABH Pre – ABH Post) x kW Post***

**Energy Cost Savings ($):**

***Energy Cost Savings (Lighting) = (kWh Savings (Lighting) + kWh Savings (Occupancy Sensors))x IER +******Connected kW Savings x DR – H/C Factor***

*where: DR = Demand Rate ($/kW)*

*IER = Incremental Electric Energy Rate ($/kWh)*

*H/C Factor = Heating/Cooling Factor = HP – CC*

*ABH Pre & ABH Post = Annual Burn Hours in Spaces with Occupancy sensors Post (Lighting Detail Attachment A)*

|  |  |  |  |
| --- | --- | --- | --- |
| *HP (Heating Penalty):* | *(KWHRED \* 3413 \* %HTRET \* % Savings Heating Season) /BTUs/UNIT / EFF = MMBTU* |  | |
| *CC (Cooling Credit):* | *(KWHRED \* 3413 \* %HTRET \*% Savings Cooling Season \* %COOLED) /12000 \* KW/TON = KWH* | |

*where:*

HTRET (heat returned to space), Heating System Efficiency, % of Building Cooled, and Winter & Summer coincident hours are in table below.

**Table 2.6**



**FIM-4 Building Envelope - Weatherization**



Reduced thermal losses are the result of building envelope improvements. Infiltration/exfiltration is the rate of uncontrolled air exchange that occurs through unintentional building openings. Increasing the R-Value of weather-stripping, caulk, and foam products will be used to prevent structural leakage/thermal losses which reduce the amount of energy needed to maintain indoor building space temperatures.

**Measurement & Verification Plan – Building Envelope (One-time)**

*Pre-Installation:* Re-check building envelope audit, recommendations, and calculation variables. Take pre-retrofit photographs of areas targeted for building envelope improvements, measuring open cracks in sample set of doors.

*Post-Installation:* Verify that scope of work has been completed. Conduct a one-time visual inspection of envelope improvements, photograph pre-retrofit sample areas with re-measurement of cracks/weatherstripping, and discuss with operational staff to investigate to verify improvement /performance. Savings will be based on engineering calculations and assumptions in detailed energy audit. Energy savings will be calculated using the Energy Rate as defined in Section IV Baseline Calculations and Utilities.

*Duration of Measurement/Verification:* One-time pre/post measurement/verification

**Table 2.7**



**Table 2.8**



Weatherization Calculation

CFM = Correction Factor x {Area (sq.in.) x [(Stack Coeff. x Temp. Diff.) + (Wind Coeff. x Wind Speed2)]1/2}

*Note: Calculated CFM is only for leakage due to surveyed crackage, not representaive of total building leakage. Existing building leakage assumed to be less than a "Tight Building" (0.4 ACH)*

*Where:*

Area (sq.in.) = Sum of Description items: {Qty x Length (ft) x Crackage (ft)} / 144 (sq.in/sq. ft.) (Table 2.8 Stack & Wind Coefficients = (Table 2.7)

Heating: Q (MMBtu for both Unoccupied and Occupied hours) = (1.08 x CFM x (Bin Temp - Setpoint) x Bin Hours)

x 1/Boiler Eff) / 1,000,000

Cooling: Q (kWh for Unoccupied and Occupied Hours) = (1.08 x CFM x (Bin Temp - Setpoint) x Bin Hours) x 1 ton /12,000 Btu/hr x Clg. Eff. kW/ton x % of Space Cooled

Proposed: 99% Reduction in CFM (weatherization scope of work only, not entire building)

Savings = Existing - Proposed

The savings calculations, assumptions, and engineering standards used to determine building envelope energy savings during project development will be used in each performance period to calculate annual cost avoidance for this measure. Any assumptions used in the calculations, adjustments made to the baseline, and/or performance measurements recorded during a period, will be applied in the annual cost avoidance calculations.

**FIM-5 Attic Insulation**



Reduced thermal losses are the result of building envelope improvements which includes the addition of attic insulation to areas which are deficient. Increasing the R-Value of these areas by adding insulation will prevent/improve structural leakage/thermal losses which reduce the amount of energy needed to maintain indoor building space temperatures.

**Measurement & Verification Plan (One-time)**

*Pre-Installation:* Re-check building envelope audit, recommendations, and calculation variables. Take pre-retrofit photographs of areas targeted for this building envelope improvement, verify and/or measure existing attic insulation, if any.

*Post-Installation:* Verify that scope of work has been completed. Conduct a one-time visual inspection of attic insulation improvements, photograph pre-retrofit sample areas with re-measurement of insulation levels, and discuss with operational staff to investigate to verify improvement /performance. Energy savings will be calculated using the Energy Rate as defined in Section IV Baseline Calculations and Utilities.

*Duration of Measurement/Verification:* One-time pre/post measurement/verification

|  |
| --- |
| Existing Cooling. Gain (In mmBtu's) = (Avg. OA Temp. - Summer Inside Setpoint) x SqFt. x Existing U Value x Total Bin Hours/1,000,000 |
| Proposed Cooling. Gain (In mmBtu's) = (Avg. OA Temp. - Summer Inside Setpoint) x SqFt. x Proposed U Value x Total Bin Hours/1,000,000 |
|  |
| Existing Heating. Loss (In mmBtu's) = (Avg. OA Temp. - Winter Inside Setpoint) x SqFt. x Existing U Value x Total Bin Hours/1,000,000 |
| Proposed Heating. Loss (In mmBtu's) = (Avg. OA Temp. - Winter Inside Setpoint) x SqFt. x Proposed U Value  x Total Bin Hours/1,000,000 |

Definition: U= 1/R

**Table 2.9**



**FIM-6 Pipe and Valve Insulation**



Savings are realized through reduced thermal losses within heating distribution systems. The heating systems have locations with pipe lengths and fittings that are un-insulated resulting in heating losses (i.e. heating unintended spaces and having to produce more heat to meet space/zone temperature set point). By insulating heating system pipes and valves, more heat is delivered to the intended spaces resulting in less boiler operation.

**Measurement & Verification Plan (One time)**

*Pre-Installation:* Re-check audit. Measure linear footages of exposed piping and quantities of uninsulated valves, bonnets, flanges, and pumps in sample of areas. Conduct thermal imaging in selected areas if seasonality possible.

*Post-Installation:* Verify that approved scope of work has been completed and that the insulation is properly installed. One time measurement of linear feet of pipe insulation installed in sampled areas. Conduct thermal imaging in selected areas if seasonality possible.Field verification to verify counts and linear footages as stated in the scope and adjust calculations based on post retrofit audit.

*Duration of Measurement/Verification:* One-time pre/post measurement/verification

**Table 2.10**



Pipe & Valve Insulation Calculations

*Bare Heat Losses: Qbar = (Ts-Ta) / Rs*

*Insulated Heat Losses: Qins = (Ts-Ta) / (r2(ln(r2/r1)/k) + Rs)*

*Savings = (Qb x Ab-Qix Ai) x hr / eff/106*

*Where:*

*Rs (Bare Pipe surface) = 0.46* *hr x ft2 x F/Btu*

*Rs (Insul. Pipe surface) = 0.53 hr x ft2 xF/Btu*

*k (insulation / Thermal conductivity) = 0.26 Btu x in/hr xft2\*F*



*Where:*

*Ts = Surface Temp (deg. F)*

*Ta = Ambient Temp (deg. F)*

*R1 = Pipe outer diameter (in)*

*R2 = Insulation outer radius (in)*

*Qb = Bare pipe heat loss (Btu/(hr\*ft2))*

*Qi = Insulated pipe heat loss (Btu/(hr\*ft2))*

*Ab = Equiv. Surface area without insulation (ft2)*

*Ai = Equiv. Surface area of insulation (ft2)*

**FIM-7 Hot Water Reset**



The Hot Water Reset control strategy implemented at the Town Offices will be achieved through the implementation of a hot water temperature setback control strategy utilizing the newly installed HVAC controls.

**Measurement & Verification Plan (Short Term)**

*Pre-Installation:* The savings potential for the Hot Water Rest strategy were determined using engineered calculations.

During project development, a profile of HVAC operations and systems for the existing mechanical equipment was completed using nameplate factors, existing FMS parameters, sequences, and facility staff input. The information was used to develop projected savings for the hot water reset control strategy to reduce energy consumption by optimizing the facility HVAC controls.

*Post-Installation:* Verify programming, scheduling and operation of the implemented control strategy and scheduling required to support savings have been properly installed. Perform trend analysis using the FMS or loggers to demonstrate the performance of implemented control strategy and that the data is being stored in the repository. Upon successful demonstration of the implemented control strategy and parameters, the trend data point(s): runtime, outside air temperature, and boiler temperature setpoint for a two-week period during the appropriate season will be used to verify that energy savings are occurring/being achieved. If design parameters do not match table values, JCI will calculate the difference based on design controls parameters, communicate variance to the customer, and make necessary adjustments/comments in the M&V annual report. Cost avoidance savings will be calculated using energy rates as defined in the Baseline Calculations and Utilities section.

*Duration of Measurement/Verification:* Two-week period measurement/verification during appropriate season each year for three years

Jacket Losses MMBtu = (Hot Water temperature Set point- Boiler Room Space Temperature)\* Jacket Loss Rate(Loads for Hours below Lockout of 65F only)

Hot Water Reset Schedule

|  |  |  |
| --- | --- | --- |
| Proposed Reset Schedule | | |
| HWS | OAT |  |
| **200** | **0** |  |
| **130** | **60** |  |
| 1.2 | deg HW/Deg OA | |

**Table 2.11**



**Option B**

**Retrofit Isolation**

Measured Project Benefits are determined by field measurement of the energy use of the systems to which an Improvement Measure was applied separate from the energy use of the rest of the facility. Short-term, long-term or continuous measurements are taken throughout the pre and post-retrofit periods. Engineering calculations using short term, long-term or continuous pre and post-retrofit measurements are used to calculate the Measured Project Benefits for the duration of the Guarantee Term.

Measured Project Benefits from the following Improvement Measures will be calculated using Option B:



**FIM-1 Photovoltaic Generation**

|  |  |  |
| --- | --- | --- |
| **FIM-1 Photovoltaic Generation** | High School | Community Center |

The Solar Photovoltaic (PV) system is a renewable energy resource measure designed to generate electricity from a total of 312 kW AC PV ground mount arrays at the Community Center and the High School/Middle School. The system was designed using a commercial professional solar system design and analysis software.

**Measurement & Verification Plan (Short Term)**

*Pre-Installation:*  Using a solar modeling tool (PVSYST) JCI designed a solar PV system consisting of PV modules, arrays and inverters at the Community Center and the High School/Middle School. The industry-standard PV-Syst calculation and Helioscope tools provided projected energy (kWh) generation for each system. The tools account for specific system design factors and uses locational simulation data to calculate projected electric energy (kWh) output. Modelled irradiance (kWh/m2) factors for the location is documented in Table 2.12 these values will be used in post retrofit calculations.

*Post-Installation:* Verify that approved scope of work has been completed and commissioned insuring that the solar PV system components are functioning per design. Test power measurement equipment and tracking system integration to insure accurate data recording. The new solar installation will have kWh meter installed that will track the energy generated from the solar array through a power generation tracking system. This value at contract rates will be used to track the contract savings generated by the solar systems (savings tracking is subject to adjustments during the guarantee term – see Solar PV Measure Adjustments belw). JCI will measure kWh generation and irradiance and then use the Solar PV energy system power generation calculations below.

*Duration of Measurement:* Continuous data logging through the Inverter of electric power generation for three years. Report system performance annually for three year period.

**Table 2.12**

|  |  |
| --- | --- |
| **Month** | **Global Horizontal Irradiation (kWh/m2)\*** |
| January | 58.5 |
| February | 78.1 |
| March | 129.2 |
| April | 148.5 |
| May | 179.5 |
| June | 170.1 |
| July | 200.2 |
| August | 162.6 |
| September | 131.8 |
| October | 81.5 |
| November | 55.0 |
| December | 46.8 |
| **Total** | **1441.8** |
| \*All locations with same modelled kWh/m2 | |

|  |  |  |
| --- | --- | --- |
| **Key Parameter** | **Measurement Frequency** | **Measurement Description**  **(including sampling plan)** |
| Electricity Generated (kW and kWh) | 30 day period in the summer on an annual basis for first three years of term | The amount of electricity generated (kW and kWh) will be verified using data from the inverter. Measurements from all the panels installed by the project will be used. |
| Sunshine for Normalization  (Measured as irradiance (kWh/m2)) | 30 day period in the summer on an annual basis for first three years of term | Average expected Irradiance data for Wiscasset, ME or closest location is used to calculate the contract savings. |

The energy production guarantee shall assume the monthly baseline (reference) solar irradiance as shown above. On a monthly basis, the average amount of electricity produced per kWh/m2 of solar irradiance will be calculated and the savings will be adjusted accordingly:

Where kWh/m2 is the irradiance.

Where %RSSmonth = Percentage of the total annual solar resource for that month

Daysmonth = number of days in that month, Daysoffline = number of days each inverter is offline

Panelsoffline = number of panels offline, Panelstotal = total number of panels installed

kWh impact of any production factors that occur during the measurement period. Production factors are defined as events outside JCI control that has the effect of reducing kWh generation or failures in system operation due to maintenance that influences data collection and recording for complete and accurate data pertaining to production and weather. Other production factors include, but are not limited to, physical obstructions or interference with the solar irradiation of each array (i.e. over shadowing or shading), snow-frost-ice, utility grid outages, outages directed by the owner-customer, casualty events, Force Majeure events, theft, vandalism, equipment failure, DAS failure (lost connection or data), or utility system permit events (system disabled).

**Solar PV Measure Adjustments**

**Definitions.** For purposes of this Agreement, the following terms have the meanings set forth below:

**Actual Energy** means the energy, over the course of an Energy Year, delivered to the Energy Delivery Point. Units are Megawatt-Hours (MWH).

**Baseline Incident Radiation** is solar insolation in the plane of the collectors developed from Baseline Weather Conditions and modeled with transformation functions from PVSyst over the course of a Year.

**Baseline Weather Conditions** means the meteorological data used to determine the Modeled Energy.

**Degradation Rate** means the percentage by which the Modeled Energy is downwardly adjusted on a compounded annual basis. For purposes of this Agreement, the Degradation Rate shall equal 0.7%.

**Energy Contract Rate** means the price that will be multiplied by an Energy Shortfall or Energy Surplus. Units are Dollars per Megawatt-Hour ($/MWH).

**Energy Delivery Point** means the point of interconnection to the distribution system or service panel.

**Energy Year** means the period of 365 days following the Commercial Operation Date and each 365 day anniversary thereafter throughout the Guarantee Term.

**Force Majeure** means conditions that are beyond the reasonable control, and without the intentional misconduct or negligence of the Party claiming the benefits of the Force Majeure, that include, but are not limited to: acts of God or nature; acts of government agencies; strikes; labor disputes; fires; explosions or other casualties; thefts; vandalism; riots or war; acts of terrorism; the unavailability of electrical transmission or distribution service at any time; interruptions or degradations in telecommunications, computer, or electronic communications systems that are beyond the reasonable control of JCI; changes in Laws pertaining to the operation of the project; interruption of electrical service at the Property Site or to the Generating Station; requirement by a utility that the Generating Station discontinue operation for any reason; physical obstruction or interference of insolation to the Generating Station, such as overshadowing or shading; appropriation or diversion of electricity by sale or order of any governmental authority having jurisdiction thereof; any action by any governmental authority that prevents or prohibits the

Parties from carrying out their respective obligations under this Agreement; or unavailability of parts, materials or supplies despite commercially reasonable efforts to procure such parts, materials or supplies.

**Generating Station** means the entirety of the solar generating system, its electrical and mechanical components, mounting or tracking components, inverter(s), modules, meter(s), and monitoring components described in Schedule 1

**Global Horizon lrradiance** means solar insolation measured at local weather station over the course of an Energy Year from the horizon (flat). Units are Kilowatt-Hours per Square Meter (kWh/m2).

**Production Factor** means any event or action outside the control of JCI that has the effect of reducing the Actual Energy, including physical obstruction or interference of insolation to the Generating Station, such as overshadowing or shading; utility grid outage; outage directed by Host, Generating Station owner, or utility; casualty events; Force Majeure Events; theft; or vandalism.

**Changes in Use or Condition; Adjustment to Baseline**

**and/or Annual Project Benefits**

Customer agrees to notify JCI, within fourteen (14) days, of (i) any actual or intended change, whether before or during the Guarantee Term, in the use of any facility, equipment, or Improvement Measure to which this Schedule applies; (ii) any proposed or actual expansions or additions to the premises or any building or facility at the premises; (iii) a change to utility services to all or any portion of the premises; or (iv) any other change or condition arising before or during the Guarantee Term that reasonably could be expected to change the amount of Project Benefits realized under this Agreement.

Such a change, expansion, addition, or condition would include, but is not limited to: (a) changes in the primary use of any facility, Improvement Measure, or portion of the premises; (b) changes to the hours of operation of any facility, Improvement Measure, or portion of the premises; (c) changes or modifications to the Improvement Measures or any related equipment; (d) changes to the M&V Services provided under this Agreement; (e) failure of any portion of the premises to meet building codes; (f) changes in utility suppliers, utility rates, method of utility billing, or method of utility purchasing; (g) insufficient or improper maintenance or unsound usage of the Improvement Measures or any related equipment at any facility or portion of the premises (other than by JCI); (h) changes to the Improvement Measures or any related equipment or to any facility or portion of the premises required by building codes or any governmental or quasi-governmental entity; or (i) additions or deletions of Improvement Measures or any related equipment at any facility or portion of the premises.

Such a change or condition need not be identified in the Baseline in order to permit JCI to make an adjustment to the Baseline and/or the Annual Project Benefits. If JCI does not receive the notice within the time period specified above or travels to either Customer’s location or the project site to determine the nature and scope of such changes, Customer agrees to pay JCI, in addition to any other amounts due under this Agreement, the applicable hourly consulting rate for the time it took to determine the changes and to make any adjustments and/or corrections to the project as a result of the changes, plus all reasonable and documented out-of pocket expenses, including travel costs. Upon receipt of such notice, or if JCI independently learns of any such change or condition, JCI shall calculate and send to Customer a notice of adjustment to the Baseline and/or Annual Project Benefits to reflect the impact of such change or condition, and the adjustment shall become effective as of the date the change or condition first arose. Should Customer fail to promptly provide JCI with notice of any such change or condition, JCI may make reasonable estimates as to the impact of such change or condition and as to the date on which such change or condition first arose in calculating the impact of such change or condition, and such estimates shall be conclusive.

**IV. BASELINE CALCULATIONS AND UTILITY RATES**

The unit utility costs for the Baseline period are set forth below as “Base Utility Cost” and shall be used for all calculations made under this Schedule. The Base Utility Cost shall be escalated annually by the actual utility cost escalation, but such escalation shall be no less than the mutually agreed “floor” escalation rate of four percent (4%).

Adjusted Baseline/Forward Looking Rate

Per agreement with the Mr. Dennis Simmons, Town Manager, Town of Wiscasset, on 4/2/2024 an adjusted baseline/forward looking rate to calculate the electric savings for the energy conservation project is $0.155/kWh.

**Table 2.13**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Contract Electric Rates** | | | | |
| **Facility** | **Provider** | **Account #** | **Incremental Electric Rate (IER)  $/kWh** | **Demand Rate (DR) $/kW** |
| High School | Central Maine Power | 3501-5885-219 | 0.155 | 12 |
| Elementary School | Central Maine Power | 3501-5830-033 | 0.155 | 12 |
| Town Offices/Emergency | Central Maine Power/Constellation (Supply) | 3501-3922-626 | 0.155 | 16 |
| DPW | Central Maine Power/Constellation (Supply) | 3501-2641-797 | 0.155 |  |
| Community Center | Central Maine Power/Constellation (Supply) | 3501-1236-961 | 0.155 | 12.7 |
| Airport | Central Maine Power | 3501-6954-592 | 0.155 |  |
| Transfer Station | Central Maine Power/Constellation (Supply) | 3501-6964-534 | 0.155 | 12.5 |

**Baseline Electric Calculations**

The Incremental Electric Rate to be used in the calculation of savings for the current reporting period shall be the greater of Formulas A-1a or A-1b.

**FORMULA A-1a**

|  |
| --- |
| **IERn = TKC1-12÷ TKWH1-12**  Where:  IERn: Incremental Electrical Rate (Dollars per kWh) for reporting year n.  TKC1-12: Sum Total of Monthly Electrical Utility Costs (Dollars) for kWh included Fuel Adjustment Cost and other related Energy Charges for Months 1 Through 12 of reporting year n.  TKWH1-12: Sum Total of Monthly Electrical Incremental Use (kWh) for Months 1 Through 12 of reporting year n. |

**FORMULA A-1b**

|  |
| --- |
| **IERn =IERbaseline x (1 + ER)n**    Where:  IERn: Incremental Electric Rate ($/kWh) for reporting year n  IERbaseline: Incremental Electric Rate for the baseline period (Table 2.13)  ER: Escalation Rate, per contract |

The Demand Rate to be used in the calculation of savings for the current reporting period shall be the greater of Formulas B-1a or B-1b.

**FORMULA B-1a**

|  |
| --- |
| **DERn = TKC1-12÷ TKWH1-12**  Where:  DERn: Demand Electric Rate (Dollars per kW)  TKC1-12: Sum Total of Monthly Electrical Utility Costs (Dollars) for kW included Fuel Adjustment Cost and other related Energy kW Charges for Months 1 Through 12 of reporting year n.  TKW1-12: Sum Total of Monthly Electrical Demand (kW) for Months 1 Through 12 of reporting year n. |

**FORMULA B-1b**

|  |
| --- |
| **DERn = DERbaseline x (1 + ER)n**  Where:  DERn: Demand Electric Rate ($/kW) for reporting year n  DERbaseline: Demand Electric Rate for the baseline period (Table 2.13)  ER: Escalation Rate, per contract |

### Fuel Oil

### The table below lists the local fuel oil distributor rates for the base period rates for each site in effect during the baseline period. Fuel Oil rates listed are average for the baseline period.

### Table 2.14 Fuel Oil #2 Baseline Floor Rates



**Baseline Fuel Oil Calculations**

The Fuel Oil unit costs will be averaged over the course of the reporting period, as reflected on delivery receipts, for equitable cost avoidance savings reporting.

The Fuel Oil Rate to be used in the calculation of savings for the current reporting period shall be the greater of Formulas E-1a or E-1b:

**FORMULA E-1a**

|  |
| --- |
| **FORn = TGC1-12÷ TGU1-12**  Where:  FORn: Fuel Oil Rate ($/Gal.) for reporting year n  TGC1-12: Sum Total of Monthly Costs ($) for reporting year n  TGU1-12: Sum Total of Monthly Purchased (Gals.) for Months 1 Through 12 of reporting year n. |

**FORMULA E-1b**

|  |
| --- |
| **FORn = FORbaseline x (1 + ER)(n-1)**    Where:  FORn: Fuel Oil Rate ($/Gal.) for reporting year n  FORbaseline: Fuel Oil Rate for the baseline period Table 2.14)  ER: Escalation Rate, per contract |

**V. MEASUREMENT & VERIFICATION SERVICES**

JCI will provide the M&V Services set forth below in connection with the Assured Performance Guarantee.

1. During the Installation Period, a JCI Performance Assurance Specialist will track Measured Project Benefits. JCI will report the Measured Project Benefits achieved during the Installation Period, as well as any Non-Measured Project Benefits applicable to the Installation Period, to Customer within 60 days of the commencement of the Guarantee Term.
2. Within 60 days of each anniversary of the commencement of the Guarantee Term, JCI will provide Customer with an annual report containing:
   1. an executive overview of the project’s performance and Project Benefits achieved to date;
   2. a summary analysis of the Measured Project Benefits accounting; and
   3. depending on the M&V Option, a detailed analysis of the Measured Project Benefits calculations.
3. During the Guarantee Term, a JCI Performance Assurance Specialist will monitor the on-going performance of the Improvement Measures, as specified in this Agreement, to determine whether anticipated Measured Project Benefits are being achieved. In this regard, the Performance Assurance Specialist will periodically assist Customer, on-site or remotely, with respect to the following activities:
   1. review of information furnished by Customer from the facility management system to confirm that control strategies are in place and functioning;
   2. advise Customer’s designated personnel of any performance deficiencies based on such information;
   3. coordinate with Customer’s designated personnel to address any performance deficiencies that affect the realization of Measured Project Benefits; and
   4. inform Customer of opportunities to further enhance project performance and of opportunities for the implementation of additional Improvement Measures.
4. For specified Improvement Measures utilizing an “Option A” M&V protocol, JCI will:
   1. conduct pre and post installation measurements required under this Agreement;
   2. confirm the building management system employs the control strategies and set points specified in this Agreement; and
   3. analyze actual as-built information and adjust the Baseline and/or Measured Project Benefits to conform to actual installation conditions (e.g., final lighting and water benefits calculations will be determined from the as-built information to reflect the actual mix of retrofits encountered during installation).
5. For specified Improvement Measures utilizing an “Option B” M&V protocol, JCI will:
   1. confirm that the appropriate metering and data points required to track the variables associated with the applicable Improvement Measures’ benefits calculation formulas are established; and
   2. set up appropriate data capture systems (e.g., trend and totalization data on the facility management system) necessary to track and report Measured Project Benefits for the applicable Improvement Measure.

**CUSTOMER RESPONSIBILITIES**

In order for JCI to perform its obligations under this Agreement with respect to the Work, the Assured Performance Guarantee, and the M&V Services, Customer shall be responsible for:

Providing JCI, its subcontractors, and its agents reasonable and safe access to all facilities and properties that are subject to the Work and/or M&V Services;

Providing for shut down and scheduling of affected locations during installation, including timely shutdowns of chilled water and hot water systems as needed to accomplish the Work and/or M&V Services;

Providing timely reviews and approvals of design submissions, proposed change orders, and other project documents;

Providing the following information with respect to the project and project site as soon as practicable following JCI’s request:

surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;

geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the project site;

temporary and permanent easements, zoning and other requirements and encumbrances affecting land use, or necessary to permit the proper design and construction of the project and enable JCI to perform the Work;

a legal description of the project site;

as-built and record drawings of any existing structures at the project site; and

environmental studies, reports and impact statement describing the environmental conditions, including hazardous conditions or materials, in existence at the project site.

Securing and executing all necessary agreements with adjacent land or property owners that are necessary to enable JCI to perform the Work;

Providing assistance to JCI in obtaining any permits, approvals, and licenses that are JCI’s responsibility to obtain as set forth in Schedule 1;

Obtaining any permits, approvals, and licenses that are necessary for the performance of the Work and are not JCI’s responsibility to obtain as set forth in Schedule 1;

Properly maintaining, and performing appropriate preventative maintenance on, all equipment and building systems affecting the Assured Performance Guarantee in accordance with manufacturers’ standards and specifications;

Providing the utility bills, reports, and similar information reasonably necessary for administering JCI’s obligations under the Assured Performance Guarantee within five (5) days of Customer receipt and/or generation or JCI’s request therefor;

Providing all records relating to energy and/or water usage and related maintenance of the premises and relevant equipment requested by JCI;

Providing and installing utility sub-meters on all new construction and/or additions built during the Guarantee Term as recommended by JCI or, alternatively, paying JCI’s applicable fees for calculating necessary adjustments to the Assured Performance Guarantee as a result of the new construction;

Providing and maintaining wireless communication cell service to monitor two (2) ground mounted solar PV sites.

Promptly notifying JCI of any change in use or condition described in Section III of Schedule 2 or any other matter that may impact the Assured Performance Guarantee;

Taking all actions reasonably necessary to achieve the Non-Measured Project Benefits;

Customer is responsible for providing cell service to monitor the solar PV system performance for the term of the contract.

If any equipment under control is changed out, moving the controls and the controls programming to the new equipment;

Providing room for a laydown area, parking, room for a dumpster, necessary office space.

PRICE AND PAYMENT TERMS

Customer shall make payments to JCI pursuant to this Schedule 4.

1. *Work*. The price to be paid by Customer for the Work shall be $1,901,674 . Payments (including payment for materials delivered to JCI and work performed on and off-site) shall be made to JCI as follows:

* + 1. An invoice for an Initial Payment (**30% or** **$570,542.00**) will be submitted by JCI to Customer, within five (5) business days after this Agreement has been fully executed, for initial project mobilization and major equipment order(s). This invoice shall be paid to JCI within ten (10) business days of receipt of invoice.
    2. The remainder of the Agreement price will be invoiced via monthly progress invoices using standard AIA G702/703 forms. The Customer shall make progress payments promptly within fifteen (15) business days of its receipt of an invoice. Payments that remain unpaid after thirty (30) days shall be subject to a monthly service charge of one and one-half percent (1.5%) per month.

1. 2. *M&V Services:* The price of M&V Services for Years 1-3 is set forth in the table below. During Years 4-20, a reduced price for M&V Services will be provided and average measurements taken during Years 1 -3 will be used for energy savings calculations for Years 4-20. A utility analysis will be provided during Years 4-20 and compared to escalated contract utility rates. The schedule of annual payments in Table 4.1 in which M&V Services are provided will be due and payable in advance upon receipt of JCI's invoice for such services.

Table 4.1



**NOTICE TO PROCEED**

Johnson Controls, Inc.

915 Holt Ave. Unit#7

Manchester, NH 03109

ATTN: Victor Holt

Re: Notice to Proceed for Town Of Wiscasset

Dear Mr. Holt:

This Notice to Proceed is being issued by Town of Wiscasset (“Customer”) to JCI, Inc. (“JCI”) pursuant to that certain Performance Contract entered into between Customer and JCI for the purpose of notifying JCI to commence work under such contract.

In the event that this Notice to Proceed is delivered by Customer prior to the execution of the Performance Contract by Customer and JCI, Customer understands and expects JCI will incur significant costs and expenses in complying with this Notice to Proceed. In the event the Performance Contract is not executed by the parties, for any reason, Customer agrees to pay JCI for its costs and fees incurred in complying with this Notice to Proceed on a time and material basis. Customer also agrees JCI shall be entitled to a reasonable markup thereon for profit and overhead. Customer agrees to pay amounts billed by JCI no later than five (5) days after Customer receives JCI’s payment application. JCI will continue to submit payment applications to Customer until the Performance Contract is executed. Once the Performance Contract is executed, JCI will begin submitting its payment applications to Customer in accordance with the terms and conditions set forth therein. Any amounts already paid by Customer will be credited towards the Performance Contract price.

By signing and dating this Notice to Proceed, the parties hereto agree to these terms and represent and warrant they have the authority to execute this Notice to Proceed on behalf of their respective organizations.

**Town of Wiscasset**

Signature:

Printed Name:

Title:

Date:

***ACKNOWLEDGED & AGREED TO:***

**JOHNSON CONTROLS, INC.**

Signature:

Printed Name:

Title:

Date:

**CHANGE ORDER**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Performance Contract dated , 20 between JCI, Inc. and Customer | | Change Order No. | |  | | Date (mo/day/yr) | |
| Customer  Town of Wiscasset Maine | |  | | |  | |
| The above referenced Performance Contract is hereby modified to the extent described below in accordance with the Terms and Conditions of the CHANGE ORDERS section thereof. | | | | | | |
| Scope of Work changed as follows: | | | | | | |
|  | | | | | | |
| Total amount of this Change Order | | | $ | | | |
|  | | | | | | |
| Total Performance Contract amount as revised by this Change Order | | | $ | | | |
|  | | | | | | |
| The time for completion is:  increased,  decreased,  unchanged.  The new completion date resulting from this Change Order is: | | | (mo, day, yr) | | | |
|  | | | | | | |
| [check if applicable] Assured Performance Guarantee changed as follows: | | | | | | |
|  | | | | | | |
| Unless specifically changed by this Change Order, all terms, conditions and provisions of the above referenced Performance Contract remain unchanged and in full effect. | | | | | | |
| **JOHNSON CONTROLS, INC.** | **Town of Wiscasset** | | | | | |
| Signature: | Signature: | | | | | |
| Printed Name: | Printed Name: | | | | | |
| Title: | Title: | | | | | |

**CERTIFICATE OF SUBSTANTIAL COMPLETION**

**PARTIES:** Johnson Controls, INC. (“JCI”)

915 Holt Ave. Unit#7

Manchester, NH 03109

Town of Wiscasset Maine (“Customer”)

51 Bath Rd.

Wiscasset, ME. 04578

**PROJECT:** Performance Contract dated \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_, 20\_\_ between JCI and Customer

By executing this Certificate of Substantial Completion, Customer acknowledges the following:

a. The work set forth in the Performance Contract is substantially complete.

b. Customer has received the manuals, warranty information, and training required under the Performance Contract.

c. The following punch list items must be completed by JCI (check as applicable):

punch list attached

punch list complete

d. Upon completion of the punch list items, or if such punch list items are complete, JCI and Customer shall sign the Certificate of Final Completion attached hereto.

Dated                , 20     .

**CUSTOMER: JOHNSON CONTROLS, INC.**

Signature: Signature:

Printed Name: Printed Name:

Title: Title:

**CERTIFICATE OF FINAL COMPLETION**

**PARTIES:** Johnson Controls, INC. (“JCI”)

915 Holt Ave. Unit#7

Manchester, NH 03109

Town of Wiscasset Maine (“Customer”)

51 Bath Rd.

Wiscasset, ME. 04578

**PROJECT:** Performance Contract dated \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_, 20\_\_ between JCI and Customer

By executing this Certificate of Final Completion, Customer acknowledges the following:

a. The work set forth in the Performance Contract has been reviewed and determined by Customer to be fully complete.

b. Customer accepts the work as complete and hereby releases JCI’s obligations under any performance and payment bonds posted for the project as of the date set forth below.

Dated                , 20     .

**CUSTOMER: JOHNSON CONTROLS, INC.**

Signature: Signature:

Printed Name: Printed Name:

Title: Title: