

**CITY OF EL PASO, TEXAS**  
**AGENDA ITEM DEPARTMENT HEAD'S SUMMARY FORM**

**DEPARTMENT:** General Services

**AGENDA DATE:** January 22, 2013

**CONTACT PERSON/PHONE:** Stuart Ed, General Services Director, 621-6822  
Monica Lombraña, Director of Aviation, 780-4724  
Bruce D. Collins, Purchasing Manager, 541-4313

**DISTRICT (S) AFFECTED:** ALL

**SUBJECT:**

Amendment #5 to the Energy Services Company (ESCO) Contract with Johnson Controls, Inc.

That the City Manager be authorized to sign Amendment #5 to the Professional Services Contract, dated May 17, 2010, between the City of El Paso and Johnson Controls, Inc., a Wisconsin Corporation, to perform additional facility improvement measures (the "FIMs") on 11 El Paso International Airport facilities/buildings; specifically, the FIMs are: (1) lighting retrofits and controls at all 11 facilities; (2) window film on Customs, Main Terminal, Aircraft Rescue and Firefighting Facility (ARFF) and the Butterfield Golf Course; (3) Central Plant and AHU Upgrades at the Terminal Building; and (4) a Facility Management System at the Terminal Building, to implement Phase V of the City-wide Energy Operational Savings, for an amount of \$4,991,967 and for optional maintenance, measurement and verification services over a 10-year period in the estimated amount of \$658,026, for a total award of \$5,649,993, which will be funded with Airport Enterprise Funds; and that the City Manager be authorized to sign any contracts or other documents required to effectuate this transaction, subject to final approval by the City Attorney's office of all necessary documents to effectuate the transaction.

**BACKGROUND / DISCUSSION:**

The City is seeking continuation of its City-wide energy and operational efficiency initiatives. This action is the Fifth Amendment of the initial contract award approved by Council to Johnson Controls, Inc. (JCI) on May 17, 2010 to act as the City's Energy Services Company (ESCO). This amendment implements \$4,991,967 of energy and operational efficiency facility improvement measures (FIM's) at the El Paso International Airport (EPIA), with guaranteed energy savings to the City of El Paso resulting from a reduction in total electric consumption at EPIA by 34%. The amendment includes optional operational measurement and verification services over a 10-year period in the estimated amount of \$452,823 as well as optional maintenance services over a 10-year period in the estimated amount of \$205,203. The Fifth Amendment totals \$5,649,993. Total guaranteed savings over the 10-year period is \$6,404,923.

In accordance with its existing contract with the City, JCI has identified a program FIMs that include lighting improvements, window film, central plant and air handler unit upgrades, and a facility management system in its initial energy audit of the EPIA. JCI will develop, design, install, and monitor this energy and operational savings program of the FIM retrofits. JCI is providing a written guarantee of all utility and operational cost reductions to insure the initial investment (including all maintenance as well as measurement and verification services costs) is completely recouped by the City in annual energy, capital, and maintenance cost savings for a guaranteed savings term not to exceed 10 years. The program is structured in a manner that meets the provisions of the Energy Savings Performance Contracts for Local Government (Texas Local Government Code Chapter 302).

The viability of this guarantee has been verified by an independent third-party Engineering firm.

**PRIOR COUNCIL ACTION:**

The original Energy Services Company (ESCO) contract with Johnson Controls, Inc. was approved by Council on May 25, 2010 to act as the City's ESCO for the next 5 years. The original award amount totaled \$350,000 under Solicitation Number 2010-085R for Advanced Engineering and grant application support.

The First Amendment to the ESCO contract was approved by City Council on January 6, 2011 in the amount of \$3,626,770 for facility upgrades including lighting improvements, solar photovoltaic (PV) power generation panels, and HVAC equipment and control upgrades at 44 separate City facilities.

The Second Amendment was approved on October 25, 2011 in the amount of in the amount of \$2,824,000 for the conversion of 2,600 streetlights to energy-efficient light-emitting diode standards.

The Third Amendment was approved on October 25, 2011 in the amount of \$5 million for the conversion of 4,700 streetlights to energy-efficient light-emitting diode standards.

The Fourth Amendment was approved on January 10, 2012 in the amount of \$1,080,000 for the installation of solar PV power generation panels at the Municipal Service Center funded through a stimulus grant received from the State Energy Conservation Office (\$900,000 SECO, \$180,000 local cash match).

**SELECTION SUMMARY:**

N/A

**AMOUNT AND SOURCE OF FUNDING:**

Department:	Aviation Department
Amount	\$5,649,993
Funds Available:	Yes
Funds Source:	\$3,917,266 – Passenger Facility Charge fees \$1,732,727 – Airport Enterprise Fund

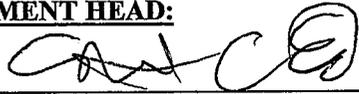
**BOARD / COMMISSION ACTION:**

N/A

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\*\*\*\*\*AUTHORIZATION\*\*\*\*\*

**DEPARTMENT HEAD:**



**Stuart Ed, General Services Director / Monica Lombraña, Director of Aviation**

# RESOLUTION

## BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EL PASO:

That the City Manager be authorized to sign Amendment #5 to the Professional Services Contract, dated May 17, 2010, between the City of El Paso and Johnson Controls, Inc., a Wisconsin Corporation, to perform additional facility improvement measures (the "FIMs") on 11 El Paso International Airport facilities/buildings; specifically, the FIMs are: (1) lighting retrofits and controls at all 11 facilities; (2) window film on Customs, Main Terminal, Aircraft Rescue and Firefighting Facility (ARFF) and the Butterfield Golf Course; (3) Central Plant and AHU Upgrades at the Terminal Building; and (4) a Facility Management System at the Terminal Building, to implement Phase V of the City-wide Energy Operational Savings, for an amount of \$4,991,967, and for optional maintenance, measurement and verification services over a 10-year period in the estimated amount of \$658,026, for a total award of \$5,649,993, which will be funded with Airport Enterprise Funds; and that the City Manager be authorized to sign any contracts or other documents required to effectuate this transaction, subject to final approval by the City Attorney's office of all necessary documents to effectuate the transaction.

ADOPTED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 2013.

CITY OF EL PASO:

\_\_\_\_\_  
John F. Cook, Mayor

ATTEST:

\_\_\_\_\_  
Richarda Duffy Momsen, City Clerk

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Elizabeth M. Ruhmann  
Assistant City Attorney

APPROVED AS TO CONTENT

\_\_\_\_\_  
Stuart C. Ed, Director  
General Services Department

**CITY OF EL PASO**

**AMENDMENT #5 TO**  
**PROFESSIONAL SERVICES CONTRACT WITH**  
**JOHNSON CONTROLS INC.**

**THIS AMENDMENT TO THE PROFESSIONAL SERVICES CONTRACT** (the "Amendment #5") is entered into as of the \_\_\_ day of \_\_\_\_\_, 2012 by and between Johnson Controls, Inc., a Wisconsin corporation with offices located at 3021 West Bend Drive, Irving, Texas 75063 (hereinafter referred to as "Contractor" or "JCI" or "Consultant") and the City of El Paso (hereinafter referred to as "City" or "Customer" or "Owner").

**RECITALS**

**WHEREAS**, the City issued a Request for Qualifications Solicitation No. 2010-085R and Contractor was selected to act as the City's Energy Services Company and perform services for developing a Detailed Evaluation Study (the "Study"), identify, engineer, design, install, maintain, monitor and facilitate a major energy and operational savings program, including Energy Conservation Measures, and to assist the City in obtaining grants for such program (hereinafter the "Services");

**WHEREAS**, on or about May 17, 2010 the City and Contractor entered into a Professional Services Contract (the "Contract") wherein Contractor was contracted to act as the City's Energy Services Company (ESCO) for a City-wide Energy Operational Savings Program (the "Project");

**WHEREAS**, on or about February 11, 2011, the City and Contractor entered into Amendment #1 to the Contract wherein Phase II of the Project was initiated, and which was completed in February 2012;

**WHEREAS**, on or about October 25, 2011, the City and Contractor entered into Amendments #2 and #3 to the Contract wherein Phases III-A and III-B were initiated and are being implemented; and,

**WHEREAS**, on or about January 10, 2012, the City and Contractor entered into Amendment #4 to the Contract wherein Phase IV was initiated, and which was completed in June 2012; and,

**WHEREAS**, the CITY and CONTRACTOR have agreed and seek to perform additional facility improvement measures (FIM) on 11 El Paso International Airport facilities/buildings; specifically, the FIMs are: (1) lighting retrofits and controls at all 11 facilities; (2) window film on Customs, Main Terminal, Aircraft Rescue and Firefighting Facility (ARFF) and the Butterfield Golf Course; (3) Central Plant and AHU Upgrades at the Terminal Building; and (4) a Facility Management System at the Terminal Building, all of which are specifically set forth in the Phase V Scope of Work, attached hereto as Schedule Q-1, which was developed from the "Utility Assessment Report, ESPC Phase V, El Paso International Airport," submitted by Contractor to the City in August 2012 and incorporated herein as if set forth in full; and

**WHEREAS**, the City wishes to enter into this Amendment #5 pursuant to Section 2.4 of the Contract, in order to implement the facility improvement measures (hereinafter "FIMs" or "Improvement Measures") set forth in Schedule Q-1 (Phase V Scope of Work).

**NOW THEREFORE**, in consideration of the mutual covenants, agreements and conditions herein contained and for other and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Contractor and the City agree as follows:

#### **ARTICLE I. TERMS**

1. The attached Energy Savings Performance Contract will be added as Attachment "Q" to the Contract and shall be incorporated by reference into this agreement for all purposes as if fully set forth herein.
2. The terms and conditions set forth in Attachment "Q" will apply to the Improvement Measures being implemented in Phase V of the Project, as particularly set forth in Schedule Q-1.
3. Schedules M-8, M-9, M-10, M-11, M-12, M-13, M-14, M-15, M-16 and M-17 to Attachment "M" of Amendment #1 to the Contract are incorporated into and shall be deemed an integral part of this Amendment #5. To the extent that Schedules M-8 through M-17 make reference to "Improvement Measures #1," these references are hereby substituted with "Phase V Improvement Measures."
4. The parties agree that Section 2.2, subsections (A) and (B) only, Section 2.4, Section 3.1, including subsection (A) of the Contract are hereby deleted.
5. Contractor shall submit any requested reports, data, and information on the performance of this Agreement as may be required by the City's lender and/or by the City, if and as applicable.
6. The services and work to be performed by Contractor set forth in Schedule Q-1 for Phase V of the ESPC Project is estimated to take twelve (12) months from the date that notice to proceed is given in writing by the City (hereinafter "term period"). The City Manager may, at her sole discretion and without further authorization from City Council, approve an extension of the term period for an additional sixty (60) days, but may not to exceed three (3) sixty-day extensions without City Council approval.

#### **ARTICLE II. MISCELLANEOUS**

1. Except as modified or otherwise provided herein, the existing terms, covenants, agreements, responsibilities and obligations contained in the Contract, and any amendments thereto, shall remain in full force and effect through the term of the Contract and its amendments. In the event of a conflict between the terms and conditions of the Contract and/or any subsequent amendments thereto, and the terms and conditions of this Amendment #5, the terms and conditions of this Amendment #5 shall prevail.
2. This Amendment #5 is effective upon the date of execution by both parties.

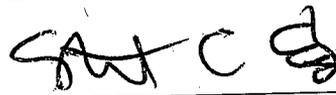
IN WITNESS WHEREOF, the parties have caused this Amendment #5 to be duly executed by their duly authorized representatives on the dates written below:

CITY OF EL PASO	JOHNSON CONTROLS, INC.
By: _____ Joyce Wilson	By:  Name: Michael Crowe
Title: <u>City Manager</u>	Title: <u>Regional VP</u>
Date: _____	Date: 11-28-2012

APPROVED AS TO FORM:

  
Elizabeth M. Ruhmann  
Assistant City Attorney

APPROVED AS TO CONTENT:

  
Stuart C. Ed, Director  
General Services Department

## ATTACHMENT "Q"

### ENERGY SAVINGS PERFORMANCE CONTRACT

#### TERMS

1. **SCOPE OF THE ATTACHMENT.** Contractor shall perform the Work set forth in Schedule Q-1. After the Work is Substantially Complete (as defined below) and the Certificate of Substantial Completion is executed by City and Contractor, Contractor shall provide the assured performance guarantee (the "Assured Performance Guarantee") and the measurement and verification services (the "M&V Services") set forth in Schedule Q-2 (Assured Performance Guarantee).

City shall make payments to CONTRACTOR for the Work and the M&V Services in accordance with Schedule Q-4 (Price and Payment Terms).

2. **ATTACHMENT DOCUMENTS:** In addition to the terms and conditions of this Attachment, the following Schedules are incorporated into and shall be deemed an integral part of this Attachment:

Schedule Q-1	Scope of Work
Schedule Q-2	Assured Performance Guarantee
Schedule Q-3	City Responsibilities
Schedule Q-4	Price and Payment Terms
Schedule Q-5	Notice to Proceed
Schedule Q-6	Change Order
Schedule Q-7	Certificate of Substantial Completion/Certificate of Final Completion
Schedule Q-8	Preventative Maintenance Services Agreement, with attachments (Equipment List, Supplemental Price and Payment Terms, Terms and Conditions, and Schedules)

3. **NOTICE TO PROCEED; SUBSTANTIAL COMPLETION; M&V SERVICES.** This Attachment shall become effective on the date of the last signature on the signature page below. Following the City's receipt and acceptance of the Performance Bond and Payment Bond (including Agent Resident Designations) substantially in the forms attached as Schedule M-8, M-9, M-10 to Amendment #1, the Insurance Certificate in accordance with Section 13 and Schedule M-11 to Amendment #1, the Statement of Incorporated Materials in the form attached hereto as Schedule M-14 to Amendment #1, and the Subcontractor and Supplier Identification form attached hereto as Schedule M-15 to Amendment #1, Contractor shall commence performance of the Work within ten (10) business days of receipt of City's Notice to Proceed, a form of which is attached hereto as Schedule Q-5, and shall achieve Substantial Completion of the Work by the Substantial Completion date, which shall be the earlier of:

- (a) the date on which City executes a Certificate of Substantial Completion substantially in the form attached hereto as Schedule Q-7; or
- (b) 12 months after Contractor's receipt of City's Notice to Proceed, subject to adjustments set forth in Section 4 and Section 5 below.

For purposes of this Attachment, "Substantial Completion" means that Contractor has provided sufficient materials and services to permit City to operate all of the Improvement Measures. The M&V Services shall commence on the first day of the month following the month in which City 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. City 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 Q-4, (iii) fails to fulfill any of City's responsibilities necessary to enable Contractor to complete the Work and provide the M&V Services, or (iv) otherwise cancels, terminates or materially breaches this Attachment, the Assured Performance Guarantee shall terminate and Contractor shall have no liability thereunder, upon written notice from Contractor as set forth in Section 4.1 of that certain Professional Services Contract dated May 17, 2010 (the "Contract").

3.1 Final Acceptance - Upon due notice from the Contractor of completion of the entire Project and prior to the execution of the Certificate of Substantial Completion, the City may conduct a final inspection of all work. If all construction provided for and contemplated by the contract is found to be completed to the City's satisfaction, the City shall execute the Certificate of Final Completion (Schedule Q-7).

If however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the City will give the Contractor a punch list and the necessary instructions for correction of same, and the Contractor shall immediately comply with and execute such instructions within the following twenty (20) work days, or another period as may be mutually agreed by the Contractor and City's representative. In such event, the City may execute the Certificate of Substantial Completion but the Final Payment (or Retainage) due to Contractor shall not be paid until the Punch List has been completed as set forth in Section 37 and Schedule Q-7. The City shall not unreasonably withhold final acceptance.

4. **DELAYS AND IMPACTS.** If Contractor is delayed 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 City in the bid documents or otherwise disclosed by City to Contractor prior to the commencement of the Work; a Force Majeure (as defined below) condition; failure by City to perform its obligations under this Attachment; or failure by City to cooperate with Contractor in the timely completion of the Work, Contractor shall provide written notice to City of the existence, extent of, and reason for such delays and impacts. Under such circumstances, an equitable adjustment in the time for performance, price and payment terms, and the Assured Performance Guarantee shall be made. If an adjustment to price and/or payment is required, the parties shall negotiate additional compensation as provided in Schedule Q-4 and an amendment to this Contract shall be mutually executed by the parties. Should Contractor encounter concealed or unknown conditions in an existing structure, Contractor shall immediately give notice to the Customer's designated representative of such conditions before they are disturbed.
5. **ACCESS.** City shall provide Contractor, its subcontractors, and its agents reasonable and safe access to all facilities and properties in City's control that are subject to the Work and M&V Services. City further agrees to assist Contractor, its subcontractors, and its agents to gain access to facilities and properties that are not controlled by City but are necessary for Contractor 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. If an adjustment to price and/or payment is required, the parties shall negotiate additional compensation as provided in Schedule Q-4 and an amendment to this Contract shall be mutually executed by the parties.
6. **PERMITS, TAXES, AND FEES.** Unless otherwise specified in Schedule Q-3 (City Responsibilities), Contractor shall be responsible for obtaining all building permits required for it to perform the Work. Unless otherwise specified in Schedule Q-1 (Scope of Work), City 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. Contractor 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, Contractor'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. The City is a tax-exempt entity and not subject to the payment of taxes and shall provide a copy of its tax-exempt certificate to Contractor.
7. **WARRANTY.** Contractor will perform the Work in a professional, workman-like manner. Contractor will promptly re-perform any non-conforming Work for no charge, as long as City provides written notice to Contractor within one (1) year following Substantial Completion or such other period identified in Schedule Q-1. If Contractor installs or furnishes goods or equipment under this Attachment, and such goods or equipment are covered by an end-user warranty from their manufacturer, Contractor will transfer the benefits of such warranty to City. The foregoing remedy with respect to the Work, together with any remedy provided by goods or

equipment manufacturers, shall be City's sole and exclusive remedies for warranty claims. City agrees that the one (1) year period following Substantial Completion, or such other period identified in Schedule Q-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 Contractor transfers the benefits of any goods or equipment end-user warranty to City 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 Q-1. **NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE PROVIDED BY Contractor.** This warranty does not extend to any Work that has been abused, altered, or misused, or repaired by City or third parties without the supervision or prior written approval of Contractor. Except with respect to goods or equipment manufactured by Contractor and furnished to City hereunder, for which Contractor shall provide its express written manufacturer's warranty, Contractor shall not be considered a merchant or vendor of goods or equipment.

8. **CLEANUP.** Contractor 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, Contractor shall remove all waste materials, rubbish, tools, construction equipment, machinery, and surplus materials. The Contractor expressly undertakes at his/her own expense:
- 8.1. To take every precaution against injuries to persons or damage to property;
  - 8.2. To store his/her apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his/her work or the work of any other Contractors;
  - 8.3. To place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work;
  - 8.4. To clean up frequently all refuse, rubbish, scrap materials and debris caused by his/her operations, to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance;
  - 8.5. Before final payment to remove all surplus material, false-work temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his/her operations, and to put the site in a neat, orderly condition;
  - 8.6. To affect all cutting, fitting or patching of his/her work required to make the same to conform to the plans and specifications and except with the consent of the City's designated representative, not to cut or otherwise alter the work of any other Contractor.
9. **SAFETY; COMPLIANCE WITH LAWS.** Contractor 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 Contractor and City shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of public authorities (collectively, "Laws") in connection with its performance hereunder.
- 9.1. **Laws to be Observed.** The Contractor shall keep fully informed of all federal, state, and local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which any way affect the conduct of the work.
  - 9.2. **Provisions Required by Law Deemed Inserted.** Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction. City affirms that it is responsible for its compliance with all applicable laws, ordinances, regulations, order, and decrees.
  - 9.3. **Patented Devices, Materials and Processes.** The Contractor shall indemnify and hold the City and its officers, agents, servants and employees harmless from liability of any nature or kind,

including reasonable and direct costs and expenses for, or on account of, any patented or unpatented invention, process, article or appliance manufactured or used in the performance of the contract, including its use by City, unless otherwise specifically stipulated in the contract documents.

- 9.4. License or Royalty Fees - License or royalty fees for the use of a process which is authorized by the City for the Project must be reasonable and must be paid to the holder of the patent, or to his/her authorized licensee by the Contractor.
- 9.5. If the Contractor uses any design, device or materials covered by letter, patent or copyright, he/she shall provide for such use by suitable agreement with the holder or City of such patented or copyrighted design, device or materials. It is mutually agreed and understood that without exception, the contract prices shall include all royalties or costs arising from the use of such design, device or materials in any way involved in the work.
- 9.6. **THE CONTRACTOR SHALL INDEMNIFY AND HOLD AND SAVE HARMLESS THE CITY OF THE PROJECT FROM ANY AND ALL CLAIMS FOR INFRINGEMENT UPON OR VIOLATION OF ANY PATENT, COPYRIGHT, TRADE SECRET OR OTHER PROPRIETARY RIGHT AT ANY TIME DURING THE PROSECUTION OF THE WORK OR AFTER COMPLETION OF THE WORK, AND SHALL PAY ANY JUDGMENT (INCLUDING ALL COURT COSTS, EXPERT FEES, AND ATTORNEYS FEES) RENDERED AGAINST THE CITY AS A RESULT OF SUCH CLAIMS.**

#### 10. ASBESTOS-CONTAINING MATERIALS AND OTHER HAZARDOUS MATERIALS.

Asbestos-Containing Materials: Neither party desires to or is licensed to undertake direct obligations relating to the identification, abatement, cleanup, control, removal or disposal of asbestos-containing materials ("ACM"). Consistent with applicable Laws, City shall supply Contractor with any information in its possession relating to the presence of ACM in areas where Contractor undertakes any Work or M&V Services that may result in the disturbance of ACM. It is Contractor's policy to seek certification for facilities constructed prior to 1982 that no ACM is present, and City shall provide such certification for buildings it owns, or aid Contractor in obtaining such certification from facility owners in the case of buildings that City does not own, if Contractor will undertake Work or M&V Services in the facility that could disturb ACM. If either City or Contractor becomes aware of or suspects the presence of ACM that may be disturbed by Contractor's Work or M&V Services, it shall promptly stop the Work or M&V Services in the affected area and notify the other. As between City and Contractor, City shall be responsible at its sole expense for addressing the potential for or the presence of ACM in conformance with all applicable Laws and addressing the impact of its disturbance before Contractor continues with its Work or M&V Services, unless Contractor had actual knowledge that ACM was present and acted with intentional disregard of that knowledge, in which case (i) Contractor shall be responsible at its sole expense for remediating areas impacted by the disturbance of the ACM, and (ii) City shall resume its responsibilities for the ACM after Contractor's remediation has been completed.

Other Hazardous Materials: Contractor shall be responsible for removing or disposing of any Hazardous Materials (as defined below) that it uses in providing Work or M&V Services ("Contractor Hazardous Materials") and for the remediation of any areas impacted by the release of Contractor Hazardous Materials. For other Hazardous Materials that may be otherwise present at City's facilities ("Non-Contractor Hazardous Materials"), City shall supply Contractor with any information in its possession relating to the presence of such materials if their presence may affect Contractor's performance of the Work or M&V Services. If either City or Contractor becomes aware of or suspects the presence of Non-Contractor Hazardous Materials that may interfere with Contractor's Work or M&V Services, it shall promptly stop the Work or M&V Services in the affected area and notify the other. As between City and Contractor, City shall be responsible at its sole expense for removing and disposing of Non-Contractor Hazardous Materials from its facilities and the remediation of any areas impacted by the release of Non-Contractor Hazardous Materials, unless Contractor had actual knowledge that Non-Contractor Hazardous Materials were present and acted with intentional disregard of that knowledge, in which case (i) Contractor shall be responsible at its sole expense for the remediation of any areas impacted by its release of such Non-Contractor Hazardous Materials, and (ii) City shall remain responsible at its sole expense for the removal of Non-Contractor Hazardous Materials that have not been released and for releases not

resulting from Contractor's performance of the Work or M&V Services. For purposes of this Attachment, "Hazardous Materials" means 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 Law 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 mold and lead-based paint and specifically excludes ACM. Contractor shall have no obligations relating to the identification, abatement, cleanup, control, removal, or disposal of mold, regardless of the cause of the mold.

City shall be responsible for any costs, damages, claims directly or indirectly, relating to or arising from the City's use, or the storage, release, discharge, handling or presence of ACM, mold (actual or alleged and regardless of the cause of such condition) or Non-Contractor Hazardous Materials on, under or about the facilities, or City's failure to comply with this Section 10.

**11. CHANGE ORDERS.** The parties, without invalidating this Attachment, may request changes in the Work to be performed under this Attachment ("Change Orders"), consisting of additions, deletions, or other revisions to the Work (see Schedule Q-6). 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. Contractor 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 City in the bid documents or otherwise disclosed by City to Contractor 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.

11.1 Without invalidating the Contract or the accompanying Payment or Performance Bond and without obtaining the consent of the Surety or Sureties, the City may, in accordance with applicable state law, order extra work or make changes by altering, adding to or deducting from the work, the contract sum being adjusted accordingly. Any changes in the work ordered and approved by the City shall become a part of the Contract work and shall be covered by the accompanying Payment and Performance Bonds. All the work of the kind bid upon shall be paid for at the price stipulated in the proposal and no claims for any extra work or materials shall be allowed unless the work is ordered in writing by the City or City's designated representative, acting officially for the City, in accordance with applicable state law, and the price is stated in such order. Additional time for change orders or delays, which affect the Contractor, shall be considered estimates upon their granting. If paid on a time and materials basis, the City reserves the right to review the actual time utilized by the Contractor in the completion of the additional work of the change order at the termination of the Project. City shall then adjust time granted per change order to reflect the actual time required by the Contractor for the completion of each change order.

11.2 NO CHANGES IN THE WORK COVERED BY THE APPROVED CONTRACT SHALL BE MADE WITHOUT HAVING PRIOR WRITTEN APPROVAL OF THE CITY OR CITY'S DESIGNATED REPRESENTATIVE AS AFORESAID. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of the following methods:

11.2.1 Unit Bid prices previously approved in this Attachment.

11.2.2 An agreed lump sum.

11.2.3 The actual cost of labor, including foreman; Materials and supplies, entering permanently into the work; ownership or rental cost of construction plant and equipment during the time of use on the extra work; Power and consumable supplies for the operation of power equipment; Public Liability and Property Damage, Worker's Compensation and all other

insurances as may be required by law or ordinances, or directed by the City or the City's Representative, or by them agreed to, and; Social Security, Old Age, Unemployment Contributions and Maintenance Bonds

11.2.4 To the cost under subparagraph 11.2.3 above, there shall be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) of the actual cost of the work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses.

11.3 No claim for extra work or cost shall be allowed unless the same was done in pursuance of a written order of the City's designated representative, approved by the City, as aforesaid. Upon receipt of a change order cost proposal from the Contractor, the City shall have fourteen (14) calendar days in which to respond to the proposal, provided that the additional cost does not have to be approved by the City's governing body; if the increased cost of the contract requires a written amendment approved by the governing body, the City shall have thirty (30) days to respond to the proposal. When work is performed under the terms of paragraph 11.2 above, the Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost and, when requested by the City, access to accounts relating thereto.

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

- (a) City's ability to obtain or make payments on any financing associated with paying for the Improvement Measures, related services, or otherwise;
- (b) City's proper legal, tax, accounting, or credit rating agency treatment relating to this Attachment; and
- (c) the necessity of City to raise taxes or seek additional funding for any purpose.

City is solely responsible for its obligations and determinations with respect to the foregoing matters. In addition, the parties acknowledge and agree that City 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 Attachment.

**13. INSURANCE AND CONTRACT SECURITY.**

13.1 Contractor shall maintain insurance in amounts no less than those 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 City's request there for.

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
Builder's Risk	100% of Value of Attachment C
Professional Liability/Errors and Omissions	

The above limits may be obtained through primary and excess policies, and may be subject to self-insured retentions.

City shall also maintain insurance coverage, of the types and in the amounts customary for the conduct of its business, throughout the term of this Attachment. Until the project is completed and accepted by the City, the Contractor is required to maintain Builder's Risk Insurance (fire and extended coverage) on a one hundred percent (100%) of the value of this Attachment C for the benefit of the City, the Contractor and subcontractor, as their interests may appear. To the extent Contractor incurs additional costs, the parties will work to agree on a Change Order.

- 13.1.1 The City shall be named as an Additional Insured, but only with respect to liability arising out of this contract regarding operations performed for them by or on behalf of Contractor, on all of the Contractor's Insurance policies, with the exception of Workers' Compensation Insurance, required by this Contract. All of the Contractor's Insurance Policies shall remain in effect until final payment and at all times thereafter when the Contractor may be correcting, removing or replacing defective work in accordance with Section 7.
- 13.1.2 Subcontractor's Commercial General Liability and Vehicle Liability Insurance. The Contractor shall require each of his/her subcontractors to procure and to maintain during the life of his/her subcontract, Subcontractor's Commercial General Liability and Vehicle Liability Insurance in the amounts specified above.
- 13.1.3 Proof of Insurance. The Contractor shall furnish the City with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies.
- 13.1.4 ENDORSEMENTS The Contractor shall provide endorsements to the commercial general liability and vehicle liability insurance policies naming the city as an additional insured and naming the city as entitled to notice substantially as follows: "The insurance covered by this certificate will not be cancelled, except after thirty (30) consecutive calendar days written notice of the intent to cancel said insurance has been provided to the City and ten (10) days written notice for non payment of insurance policy premiums."
- 13.1.4. Failure by the Contractor to provide timely proof of insurance coverage for itself will delay release of pending payments.
- 13.2 Texas Workers' Compensation Requirements. The Contractor shall furnish certificates of insurance to the City that complies with the provisions set forth in Schedule M-13 to Amendment #1.
- 13.3 Contract Security. In accordance with Chapter 2253, Texas Government Code and the terms of this contract, the Contractor shall provide the following:
  - 13.3.1 A performance bond in an amount at least equal to one hundred percent (100%) of the contract price as security for the faithful performance of this contract.
  - 13.3.2 A payment bond in an amount not less than one hundred percent (100%) of the contract price, or in a penal sum not less than that prescribed by the state, territorial or local law, as security for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract.
    - 13.3.2.1 In accordance with Article 7.19-1 of the TEXAS INSURANCE CODE, if a Performance or Payment bond is in an amount of excess of ten percent (10%) of the surety's capital and surplus, the City of El Paso will require, as a condition to accepting the bond(s), a written certification from the surety that the surety has reinsured the portion of the risk that exceeds ten percent (10%) of the surety's capital and surplus with one or more reinsurers who are duly authorized, accredited or trusted to do business in the State of Texas. If any portion of the surety's obligation is reinsured, the amount reinsured may not exceed 10% of the reinsurer's capital and surplus.

13.3.2.2 The performance bond and the payment bond shall be in a form approved by the City. A copy of the payment bond provided for the construction project in accordance with Chapter 2253, Texas Government Code, including the name, address, and phone number of the surety company shall be posted at the construction site. The surety company providing the payment bond shall designate an agent resident who resides within the County of El Paso and to whom any requisite notices may be delivered and with whom service of process may be rendered in matters arising out of suretyship. Attorneys-in-Fact who sign contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

13.3.2.3 Should the surety exercise its right to take over and perform the contract in accordance with Section 37 of this Attachment, the surety shall submit or require the Contractor to submit, a payment bond and performance bond that satisfies the requirements set forth in this paragraph.

13.3.3 Additional or Substitute Bond

13.3.3.1 If at any time the City, for justifiable cause, shall be or become dissatisfied with any Surety or Sureties upon the Performance or Payment Bonds, the Contractor shall within thirty (30) consecutive work days after notice from the City to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other Surety or Sureties as may be satisfactory to the City. The premiums on such bond (or bonds) shall be paid by the Contractor.

13.3.3.2 No further payments shall be deemed due nor shall be made until the new Surety or Sureties shall have furnished such an acceptable bond to the City.

**14. INDEMNIFICATION. CONTRACTOR WILL INDEMNIFY AND HOLD HARMLESS THE CITY, ITS OFFICERS, AGENTS AND EMPLOYEES, FOR AND AGAINST ANY AND ALL CLAIMS, CAUSES OF ACTION, LIABILITY, DAMAGES OR EXPENSE, (INCLUDING BUT NOT LIMITED TO ATTORNEY FEES AND COSTS) FOR ANY DAMAGE TO OR LOSS OF ANY PROPERTY, OR ANY ILLNESS, INJURY, PHYSICAL OR MENTAL IMPAIRMENT, LOSS OF SERVICES, OR DEATH TO ANY PERSON TO THE EXTENT ARISING OUT OF THE NEGLIGENT ACTS OR OMISSIONS OF CONTRACTOR, EVEN WHERE SUCH DAMAGE, INJURY, LOSS, ILLNESS, PHYSICAL OR MENTAL IMPAIRMENT, LOSS OF SERVICES, OR DEATH RESULTS FROM OR INVOLVES NEGLIGENCE OR ALLEGATIONS OF NEGLIGENCE ON THE PART OF THE CITY, ITS OFFICERS, AGENTS, OR EMPLOYEES.**

**15. LIMITATION OF LIABILITY. NEITHER CONTRACTOR NOR CITY 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 ATTACHMENT, THE WORK, THE IMPROVEMENT MEASURES, THE PREMISES, THE M&V SERVICES, OR OTHERWISE. WITHOUT LIMITING CONTRACTOR'S EXPRESS OBLIGATIONS UNDER THE ASSURED PERFORMANCE GUARANTEE, CONTRACTOR'S LIABILITY UNDER THIS ATTACHMENT, REGARDLESS OF THE FORM OF ACTION, SHALL IN NO EVENT EXCEED THE AMOUNT OF THE PAYMENTS ACTUALLY RECEIVED BY CONTRACTOR UNDER SCHEDULE Q-4. If this Attachment covers fire safety or security equipment, City understands that Contractor is not an insurer regarding those services, and that Contractor 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 Attachment between Contractor and City, and each party acknowledges that Contractor would not be able to provide the work and services contemplated by this Attachment on an economic basis in the absence of such waivers and limitations, and would not have entered into this Attachment without such waivers and limitations.

16. **FORCE MAJEURE.** Neither party will be responsible to the other for damages, loss, injury, or delay caused by conditions that are beyond the reasonable control, and without the intentional misconduct or negligence of that party. Such conditions (each, a "Force Majeure") include, but are not limited to: acts of God; acts of government agencies; strikes; labor disputes; 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; or unavailability of parts, materials or supplies.
17. **CONTRACTOR'S PROPERTY.** All materials furnished or used by Contractor personnel and/or Contractor subcontractors or agents at the installation site, including documentation, schematics, test equipment, software and associated media remain the exclusive property of Contractor or such other third party. City agrees not to use such materials for any purpose at any time without the express authorization of Contractor. City agrees to allow Contractor personnel and/or Contractor subcontractors or agents to retrieve and to remove all such materials remaining after installation or maintenance operations have been completed. City 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.

17.1 **Contractor's Title of Materials.** No materials or supplies for the work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he/she has good title to all materials and supplies used by him/her in the work, free from all liens, claims, or encumbrances. **PROVIDED, HOWEVER, NOTHING IN THIS PARAGRAPH SHALL PREVENT THE CITY FROM EXERCISING ALL LIEN RIGHTS THE CITY MAY HAVE IN GOODS PURCHASED BY THE CONTRACTOR WHICH ARE IDENTIFIED TO THE CONTRACT.**

17.2 The Contractor may be required to pay state sales tax for the purchase, rental or lease of tools, machinery and equipment used in the performance of the awarded contract and for materials purchased which are not incorporated into the completed project. It is the obligation of the Contractor to ascertain the amount of state sales tax to be paid under Chapter 151 of the Texas Tax Code and to include this amount in his/her bid submitted to the City. For further information, the Contractor may want to contact the office of the Texas Comptroller of Public Accounts at 1-800-252-5555. The Contractor shall execute and provide to the City prior to the City's issuance of the Notice to Proceed a Statement of Incorporated Materials in the form attached as Schedule M-14 to Attachment #1.

18. **DISPUTES.** Contractor and City will attempt to settle any controversy, dispute, difference, or claim between them concerning the performance, enforcement, or interpretation of this Attachment (collectively, "Dispute") through direct discussion in good faith, but if unsuccessful, will submit any Dispute to non-binding mediation in El Paso County, Texas. 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 and municipal law. The parties shall have all rights available to it by law or equity. Neither Contractor nor City 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.
19. **GOVERNING LAW.** This Attachment and the construction and enforceability thereof shall be interpreted in accordance with the laws of the state where the Work is conducted.
20. **CONSENTS; APPROVALS; COOPERATION.** Whenever City's consent, approval, satisfaction or determination shall be required or permitted under this Attachment, and this Attachment does not expressly state that City 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 Attachment. Whenever City's cooperation is required by Contractor in order to carry out Contractor's obligations hereunder, City agrees that it shall act in good faith and reasonably in so cooperating with Contractor and/or Contractor's designated representatives or assignees or subcontractors. City shall furnish decisions, information, and approvals required by this Attachment in a timely manner so as not to delay the performance of the Work or M&V Services.

21. **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 Attachment.
22. **INDEPENDENT CONTRACTOR.** The relationship of the parties hereunder shall be that of independent contractors. Nothing in this Attachment shall be deemed to create a partnership, joint venture, fiduciary, or similar relationship between the parties.
23. **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 Attachment and perform its obligations hereunder, (ii) all corporate, board, body politic, or other approvals necessary for its execution, delivery, and performance of this Attachment have been or will be obtained, and (iii) this Attachment constitutes its legal, valid, and binding obligation.
24. **SEVERABILITY.** In the event that any clause, provision, or portion of this Attachment 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 Attachment.
25. **HEADINGS.** The captions and titles in this Attachment are for convenience only and shall not affect the interpretation or meaning of this Attachment.
26. **COUNTERPARTS.** This Attachment may be executed in any number of counterparts, all of which when taken together shall constitute one single agreement between the parties.
27. **NOTICES.** All notices or communications related to this Attachment shall be in writing and shall be deemed served if and when sent by facsimile or mailed by certified or registered mail: to Johnson Controls, Inc. at the address listed on the first page of this Attachment, ATTN: Regional Solutions Manager, with a copy to Johnson Controls, Inc., ATTN: General Counsel – Building Efficiency Americas, 507 East Michigan Street, Milwaukee, Wisconsin, 53202; and to City at the address listed in Section 9.9 of the original Contract.
28. **REPORTS, RECORDS, DATA**

The Contractor shall submit to the City or City's designated representative such Schedule Qf quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the City or City's designated representative may request concerning work performed or to be performed under this contract.

**29. INSPECTION AND AUDIT.**

- 29.1 The authorized representative and agents of the City, State or Federal agencies, if applicable, shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials and other relevant data and records. Additionally, authorized representatives and agents of the City, State or Federal agencies, if applicable, shall be permitted to interview any personnel performing work on behalf of or in relation to the project, including but not limited to, workers on the job site.
- 29.2 The City of El Paso, its authorized representative, and/or the appropriate State or Federal agency reserve the right to audit the Contractor's records pertaining to this project to verify the accuracy and appropriateness of all pricing data, including data used to negotiate any Change Orders. The City of El Paso reserves the right to decrease the contract amount and/or payments made on this contract, if upon audit of the project's records, the audit discloses that false, misleading or inaccurate cost and/or pricing data has been provided.

33.4 No worker shall be discharged by the Contractor or Subcontractor or in any other manner discriminated against because such worker has filed an inquiry or complaint, has instituted or caused to be instituted any legal or equitable proceeding or has testified or is about to testify in any such proceeding under or relating to the prevailing wage rates for this project.

33.5 Withholding

33.5.1 The El Paso City Government, shall upon its own action withhold or cause to be withheld from the Contractor under this contract, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract.

33.5.2 In the event of failure to pay any laborer or mechanic including any apprentice, trainee, or helper, employed or working on the site of the work all or part of the wages required by the contract, the El Paso City Government, may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

#### 34. APPRENTICESHIP PROGRAM

34.1 The employment and use of apprentices to prosecute the completion of the work shall be governed by the Schedule M-16 to Amendment #1.

34.2 Prior to the start of the work of the applicable apprenticeable occupations listed below the contractor or the applicable subcontractor through the prime contractor shall provide written certification to the city that it is a sponsor or participant in a DOL approved apprenticeship program.

Apprenticeable Occupations: bricklayer, carpenter, drywall applicator, electrician, glazier, operating engineer, painter, pipefitter, plasterer, plumber, roofer, sheet metal worker, structural worker/ironworker, taper.

34.3 Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship & Training or a State Apprenticeship Agency (where appropriate) to be eligible for probation employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor/subcontractor as to the entire work force under the registered program.

34.4 The Contractor shall furnish the City's Engineering Department with sufficient information, which demonstrates that apprentices are employed pursuant to and individually registered in a bona fide apprenticeship program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the City wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the City wage determination for the work actually performed. Every apprentice must be paid at not less than the rates specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman's hourly rate specified in the City wage determination.

34.5 Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid

the full amount of fringe benefits listed on the wage determination for the applicable classification. If the bureau of Apprenticeship Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship & Training, or a state apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- 34.6 The employment of apprentices by the Contractor is mandatory on Building Structure Projects. The Contractor shall at all times employ apprentices in U.S. Department of Labor certified apprenticeship programs, in such amounts and trades, as are set forth in the Schedule Qf Categories of Apprentices, which Schedule is maintained by the Office of the City Engineer. See Addendum to the Contract "Apprenticeship Program", which is attached hereto and incorporated herein, for more details.

### **35. SUBCONTRACTING**

- 35.1 The Contractor shall be as fully responsible to the City for the acts and omissions of his/her subcontractors, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by him/her.
- 35.2 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the this Attachment and other contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards to the termination of any subcontract that the City may exercise over the Contractor under any provisions of the contract documents.
- 35.3 Nothing contained in this contract shall create any contractual relation between any subcontractor and the City.
- 35.4 The City shall have no responsibility to any subcontractor employed by the Contractor for performance of work on the Project contemplated by these contract documents, but said subcontractors will look exclusively to the Contractor for any payments due subcontractors.
- 35.5 The Contractor shall provide to the City prior to the issuance of the City's Notice to Proceed the completed Subcontractor and/or Supplier Identification form attached hereto as Schedule M-15 to Amendment #1. Prior to performing any work under this Attachment, any person, firm, or other party to whom it is proposed to award a subcontract must be acceptable to the City after verification of the current eligibility status.

### **36. RIGHT OF CITY TO TERMINATE CONTRACT**

- 36.1 In the event that any of the provisions of this contract are violated by the Contractor, or by any of his/her subcontractors, the City may serve written notice to contain the reasons for such intention to terminate the contract, and unless within ten (10) work days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement of correction be made, the contract shall, upon the expiration of said ten (10) work days, cease and terminate. The City shall have the right to immediately terminate the Contract for default if the Contractor violates any local, state, or federal laws, rules or regulations that relate to the performance of this Attachment.
- 36.2 In the event of such termination, the City shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the contract, and shall execute a Take Over Attachment with the City evidencing such intention to take over and perform the contract. Provided, however, that if the surety does not commence performance thereof within ten (10) work days from the date of the mailing of such notice to surety of termination, the City may take over the work and prosecute the same to completion by contract or

by force, and utilize in completing the work, such materials as may be on the site of the work and necessary therefore.

- 36.3 All direct and reasonable costs and charges incurred by the City, to complete the work under the contract, will be deducted from any monies due the Contractor or remaining on the contract. If such expenses exceed the sum which would have been payable under the contract, the Contractor and Surety shall be liable to the City for said amount.
- 36.4 The City may, at any time, at will and without cause, terminate any part of the work to be performed or all remaining work for any reason whatsoever by giving seven (7) days prior written notice to the Contractor. The City shall incur no liability to the Contractor by reason of such termination, except that the Contractor shall be entitled to payment for work properly completed, and materials ordered in accordance with this contract prior to the effective date of the termination. In the event that only part of the work is terminated, the Contractor shall continue in full force and effect as to all remaining work to be completed.
- 36.5 Upon a determination by a court of competent jurisdiction that a termination of the Contractor by the City pursuant to subparagraph (A) herein was wrongful, such termination will be deemed converted to a termination for convenience pursuant to subparagraph (B) herein and the Contractor's remedy for wrongful termination shall be limited to the recovery permitted for termination for convenience as set forth in subparagraph (B) herein.
- 36.6 **Default of Contract.** The following reasons shall constitute default of this contract:
- 36.6.1 If the Contractor fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- 36.6.2 If the Contractor fails to perform the work with sufficient workmen and equipment or with sufficient materials to assure the prompt completion of said work, or
- 36.6.3 If the Contractor fails to perform the work in accordance with the contract requirements and/or refuses to remove and replace rejected materials or unacceptable work, or
- 36.6.3 If the Contractor discontinues the prosecution of the work without cause, or
- 36.6.4 If the Contractor fails to resume work that has been discontinued within a reasonable time after notice to do so, or
- 36.6.5 If Contractor fails to complete any remaining punch list items for the project after notice to do so,
- 36.6.6 If the Contractor becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- 36.6.8 If the Contractor allows any final judgment to remain unsatisfied for a period of 10 days, or
- 36.6.9 If the Contractor makes an assignment for the benefit of creditors, without obtaining the written consent of the City and the Surety or Sureties, or
- 36.6.10 If the Contractor fails to comply with contract requirements regarding minimum wage payments or EEO requirements, or
- 36.6.11 If the Contractor, for any other cause whatsoever, fails to carry on the work in an acceptable manner.
- 36.6.12 If the Contractor violates any local, state, or federal laws, rules or regulations that relate to the performance of this Attachment.

- 36.7 The City's representative will give notice in writing to the Contractor and the Surety of such delay, neglect, or default.
- 36.8 If the Contractor or Surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the City will have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The City may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the City will be required for the completion of said contract in an acceptable manner.
- 36.9 All direct and reasonable costs and charges incurred by the City to complete the work under the contract, will be deducted from any monies due or remaining on the contract. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the Surety shall be liable to the City for said amount.

### **37. RETAINAGE**

- 37.1 City shall retain five percent (5%) of the amount of each payment due to Contractor until final completion and acceptance of all work covered by this contract; provided that the City at any time after fifty percent (50%) of the work has been completed, and if satisfactory progress is being made, the City may make any of the remaining progress payments in full; provided, further, that on completion and acceptance of each separate building, public work or other division of the contract on which the price is stated separately in the contract, payment may be made in full, including retained percentage thereon, less authorized deductions.
- 37.2 All material and work covered by partial payments made shall thereupon become the sole property of the City, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or stored materials stolen, nor be construed as a waiver of the right of the City to require the fulfillment of all of the terms of the contract.
- 37.3 THE CONTRACTOR AGREES THAT HE/SHE WILL INDEMNIFY AND HOLD THE CITY HARMLESS FROM ALL CLAIMS GROWING OUT OF THE LAWFUL MATERIALMEN AND FURNISHERS OF MACHINERY AND PARTS THEREOF, EQUIPMENT, POWER TOOLS, AND ALL SUPPLIES, INCLUDING COMMISSARY, INCURRED IN THE FURTHERANCE OF THE PERFORMANCE OF THIS CONTRACT. IN ACCORDANCE WITH TEX. PROP. CODE ANN. 53.231 ET. SEQ., WHEN THE AMOUNT OF THIS CONTRACT DOES NOT EXCEED \$25,000 AND WHEN THE CITY HAS RECEIVED A NOTICE OF AN UNPAID CLAIM(S) FROM A PERSON WHO HAS FURNISHED MATERIALS OR LABOR IN CONNECTION WITH THE PERFORMANCE OF A PUBLIC WORKS CONTRACT, THE CITY MAY, AFTER HAVING SERVED WRITTEN NOTICE ON SAID CONTRACTOR, EITHER PAY UNPAID CLAIMS OF WHICH THE CITY HAS WRITTEN NOTICE THEREOF, OR DIRECT OR WITHHOLD FROM THE CONTRACTOR'S UNPAID COMPENSATION A SUM OF MONEY DEEMED REASONABLY SUFFICIENT TO PAY ANY AND ALL SUCH LAWFUL CLAIMS UNTIL SATISFACTORY EVIDENCE IS FURNISHED THAT ALL LIABILITIES HAVE BEEN FULLY DISCHARGED, WHEREUPON PAYMENT TO THE CONTRACTOR SHALL BE RESUMED. IN PAYING ANY UNPAID CLAIMS, IN ACCORDANCE WITH TEXAS PROPERTY CODE ANN. 53.231 ET SEQ., THE CITY SHALL BE DEEMED THE AGENT OF THE CONTRACTOR, AND ANY PAYMENT SO MADE BY THE CITY SHALL BE CONSIDERED AS A PAYMENT MADE UNDER THE CONTRACT BY THE CITY TO THE CONTRACTOR.

38. **ASSIGNMENT.** The Contractor shall not assign the whole or any part of the contract, or any monies due or to become due hereunder without written consent of the City and Surety. In case the Contractor assigns all or any part of any monies due or to become due under this contract, the instrument of assignments shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms and

corporations of services rendered or materials supplied for the performance of the work called for in this contract.

39. **ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE.** The acceptance by the Contractor of final payment shall be, and shall operate as a release to the City of all claims and all liability to the Contractor for all things done or furnished in connection with this work and for every act and neglect of the City and others relating to or arising out of this work with the exceptions of outstanding claims or disputes for which the Contractor has provided the City prior notice. No payment, however, final or otherwise, shall operate to release the Contractor or his/her sureties from any obligations under this contract or from the Performance and Payment Bonds.

40. **RETENTION OF PAYROLL AND BASIC RECORDS**

- 40.1 Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three (3) years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, the workers correct classification, hourly rates of wages paid, including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof, daily and weekly number of hours worked, deductions made and actual wages paid.
- 40.2 Whenever the City of El Paso has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.
- 40.3 Contractors employing apprentices and trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- 40.4 The Contractor shall submit weekly for each week in which any contract work is performed the original copy of all payrolls submitted shall set out accurately and completely all of the information required to be maintained. This information may be submitted in any form desired. Optional form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.
- 40.4.1 Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the Contractor or Subcontractor or the agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- 40.4.1.1 That the payroll for the payroll period contains the information required, and that such information is correct and complete.
- 40.4.1.2 That each laborer or mechanic (including each helper, apprentice, and trainee), employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned other than permissible deductions.
- 40.4.1.3 That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

**Attachment Q: ENERGY SAVINGS PERFORMANCE CONTRACT**

(Signature Page)

**Johnson Controls, Inc.**

Signature: 

Printed Name: Michael Crowe

Title: Regional VP

Date: 11-28-2012

**City of El Paso**

Signature: \_\_\_\_\_

Printed Name: Joyce Wilson

Title: City Manager

Date: \_\_\_\_\_

**Approved as to Content:**

**City of El Paso**

Signature: 

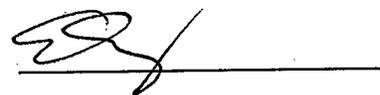
Printed Name: Stuart Ed

Title: Director, General Services Department

Date: \_\_\_\_\_

**Approved as to Form:**

**City of El Paso**

Signature: 

Printed Name: Elizabeth M. Ruhmann

Title: Assistant City Attorney

Date: \_\_\_\_\_

**SCHEDULES Q-1 TO Q-8 SIGNATURE PAGE**

**CONTRACTOR AND CITY WARRANT AND ACKNOWLEDGE THAT EACH HAS READ AND REVIEWED THE CONTENTS OF SCHEDULES Q-1 THROUGH Q-8.**

**IN LIEU OF INITIALIZING THE SCHEDULES ATTACHED HERETO, CONTRACTOR AND CITY EXECUTE THIS SIGNATURE PAGE.**

**Johnson Controls, Inc.**

Signature: 

Printed Name: Michael Crowe

Title: Regional VP

Date: 11-28-2012

**City of El Paso**

Signature: \_\_\_\_\_

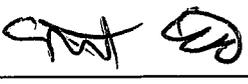
Printed Name: Joyce Wilson

Title: City Manager

Date: \_\_\_\_\_

**Approved as to Content**

**City of El Paso**

Signature: 

Printed Name: Stuart Ed

Title: Director, General Services Department

Date: \_\_\_\_\_

**Approved as to Form**

**City of El Paso**

Signature: 

Printed Name: Elizabeth M. Ruhmann

Title: Assistant City Attorney

Date: \_\_\_\_\_

**PHASE V SCOPE OF WORK**

JCI will provide the City with the scope of work (Work) identified in this Section. JCI shall supervise and coordinate all portions of the Work. JCI shall be responsible to pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. All completed work will be fully functional and installed and inspected in compliance with all local governing codes.

**General Work:**

- Three (3) copies of applicable construction drawings, equipment submittals, performance specifications and sequences of operation for all FIM's will be provided for City's review and acceptance at the completion of the final engineering design phase.
- Three (3) copies of applicable O&M manuals and record (as-built construction) drawings for all FIM's will be submitted to City at completion of construction phase.
- One (1) copy of applicable electronic CAD as-built construction files for all FIM's will be provided to City at completion of construction phase.
- City retains the right to keep any removed equipment or material, unless specified differently in other areas of this Scope of Work.
- All work will be coordinated with City personnel to minimize interruptions, delays, or safety violations.
- All materials being installed shall be new, unless specified differently in other areas of this Scope of Work.
- Necessary protection will be provided to avoid damage to adjacent services in the surrounding work areas.
- Prior to work beginning, all exterior wall, floor or roof penetrations will be identified to City personnel for verification and inspection of location.
- Work will be performed in accordance with all applicable codes and standards.
- The Johnson Controls Safety Specifications will be followed at all times. Any safety violations will be addressed immediately. Work will not continue until any unsafe conditions are corrected.

**Mechanical & Electrical:**

- Furnish and install all necessary electrical wiring and devices for a complete and operational system.
- Furnish and install all necessary mechanical fitting and devices for a complete and operational system.
- Unless stated otherwise in this Proposal, all new starters and disconnect switches will be provided with new/replaced equipment.
- When replacing chillers, cooling towers, boilers or pumps, provide flushing, cleaning and re-filling of chilled, condenser and hot water systems.
- Where scope requires replacement of equipment, provide all necessary new ductwork, gas lines, condensate lines, etc. for proper working systems.
- All new pumps shall include new pump accessories, including strainers, pump pads (if existing pads are not adequate), pressure gauges, etc.
- For all existing pumps scheduled to remain, existing strainer screen will be removed, cleaned & re-installed. If existing strainer screen and/or strainer body serving this pump is no longer functional, contractor will replace with new equipment.
- All new ductwork shall meet or exceed ductwork installation as qualified by SMACNA.
- All equipment shall be adequately supported per the manufacturer recommendations.

**Piping:**

- Unless stated otherwise in this Proposal, provide and install molded fiberglass pipe insulation with an ASJ jacket on all new piping.
- Provide and install piping identification with flow arrows on all new piping.
- All new piping will be schedule 40 Black Steel or copper and all joints will be welded. All new condensate piping shall be seamless.
- All pipe fittings are to be long radius steel joined by field weld applied joints.
- Maintain pipe installation so no trapped pockets exist without slope to a drain opening.

**Start Up and Checkout Forms:**

Provide start-up, checkout and verification of all modes (stages) of operation (by factory authorized rep.) including measurement and verification of "part load" and "full load" efficiencies, combustion gas analysis and ALL unit control features per manufacturers' start-up and checkout procedures.

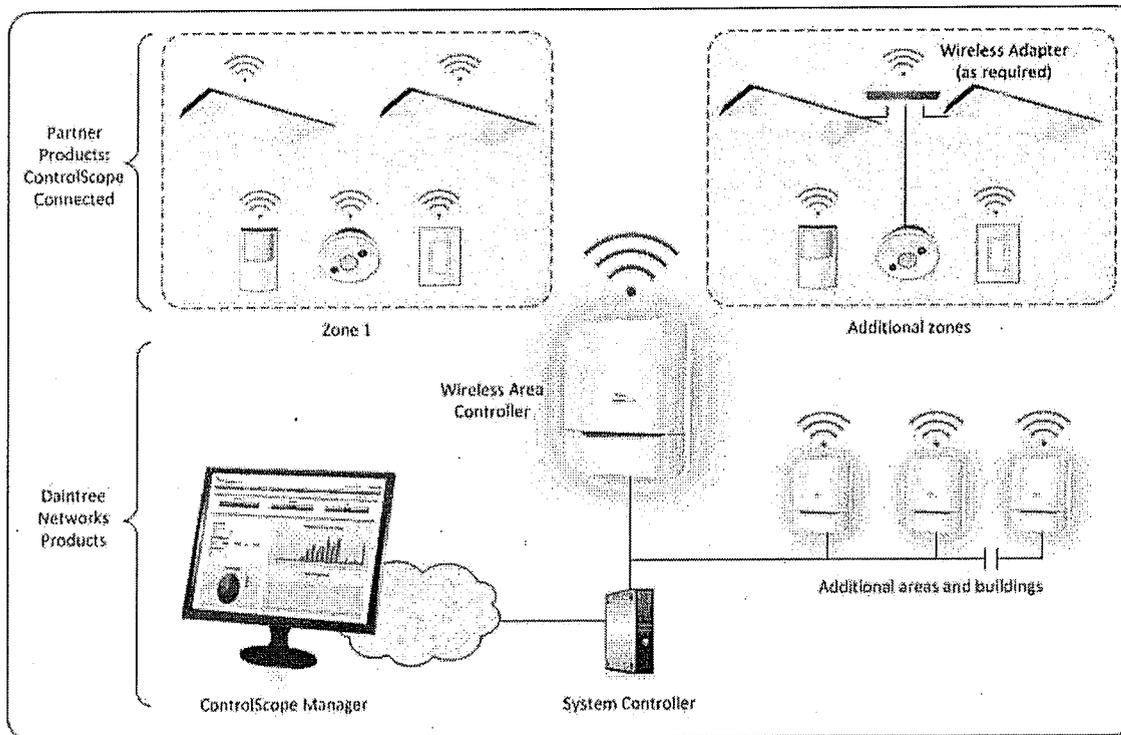
**General Exclusions:**

- HAZARDOUS MATERIALS. Unless specifically noted in this Scope of Work, JCI's obligations expressly exclude any Work or Services of any nature associated or connected with the identification, abatement, cleanup, control, removal, or disposal of hazardous materials or substances, including but not limited to asbestos or PCBs, in or on the premises.
- Any structural modifications to existing equipment and infrastructure that is required due to previously unknown deficient structural conditions.
- City code upgrades for existing infrastructure and equipment scheduled to remain.
- Repair or replacement of defective mechanical equipment, except the equipment described in the FIM description (JCI will identify the location of defective equipment and notify Airport personnel).
- TAB of existing systems, unless specified in the Scope of Work.
- Existing building ventilation conditions, indoor air quality issues (if any, except where it is was discussed with Airport personnel during development of project) are excluded from the Scope of Work and cost of this project.
- Engineering services, studies, and analysis associated with any exclusions or work clearly outside of the scope definition.

El Paso International Airport Facility	FIM #1 Lighting Retrofits & Controls	FIM #2 Window Film	FIM #3 Central Plant & AHU-26 Upgrades	FIM #4 Facility Management System
Customs and Maintenance	X	X		
Warehouse	X			
Terminal Building	X	X	X	X
ARFF	X	X		
New Vault	X			
Cargo 4	X			
Sterilizer	X			
Old Vault	X			
Butterfield Golf Course	X	X		
Long Term Parking	X			
Employee Parking	X			

FIM #: 1

FIM NAME: Lighting Retrofits &amp; Controls

**FIM DESCRIPTION:**

This FIM will include will include new lighting ballast and lamp retrofits as well as occupancy sensors and wireless control system in the main terminal. Scope of work also includes lighting retrofits in several ancillary facilities.

**GOALS:**

- Improved light levels
- Improved indoor environments
- Improved reliability of lighting systems
- Utility savings
- Operation & maintenance savings

**ASSUMPTIONS:**

- Wireless area control system operates on a WiFi network and will not cause any disturbances with other airport communication systems.
- Existing electrical wiring and fixtures are in good working condition and meet current code requirements.

**FINAL ENGINEERING:**

- Development of light fixture drawings and retrofit codes.
- Development of equipment submittals.

**SCOPE OF WORK:**

- Lenses and diffusers will be cleaned on each fixture that is retrofitted.
- New light levels will meet or exceed IES standards.
- New controls will be wireless and allow for remote operation.
- The following Tables #1 and #2 indicate new lighting systems and lighting retrofits included in this FIM.

Table #1 - Lighting Retrofit Scope:

Lighting Retrofit	Main Terminal	Building Maint	Vehicle & Field Maintenance	Warehouse#1	Warehouse#2	Warehouse#3	Old Electrical Vault	Sweeper Dump11/Sterilizer12	New electrical Vault #13	ARFF Station	Customs/Cargo 4 FTZ	Butterfield Trail Golf Course - main bldg	Butterfield Trail Golf Course - maintenance # 1	Butterfield Trail Golf Course - maintenance # 2	Butterfield Trail Golf Course	Parking Lots	Totals
Convert a 2x4 fixture to 2 F32T8 28w lamps & elect. ballast by installing reflector kit.	853	29	8	19		8				13	38	15	6			7	996
Convert a 2x2 fixture to 2 F17T8 lamps and electronic ballast by installing reflector kit.	22	2											1				25
Convert a 8' fixture to 4 F32T8 28w lamps and elect. ballast by installing retrofit kit.	17	4	31			10											62
Convert 8' fixt. to 4 F32T8 28w lamps and elect. ballast by installing reflector retrofit kit.		9	111			4		33									157
Install 1 F32T8 28w lamp and elect. ballast.	1,240															76	1,316
Install 2 F32T8 28w lamps and electronic ballast.	1,760	17	30	3	1		29	1	5	109	18	21	9	2		13	2,018
Install 3 F32T8 28w lamps and electronic ballast.			4														4
Install 4 F32T8 28w lamps and electronic ballast.	79	6	15	31		3			20	8							162
Install 1 F25T8 lamp and electronic ballast.	251															96	347
Install 2 F25T8 lamps and electronic ballast.	13																13
Install 1 F17T8 lamp and electronic ballast.	87																87
Install 2 F17T8 lamps and electronic ballast.	4			1							1						6
Install a fluorescent high bay fixture with Miro4 reflector for 4 F54T5HO lamps.		6			24												30
Install a fluorescent high bay fixture with Miro4 reflector for 2 F54T5HO lamps.													8	4			12
Install a 8' strip fixture with 2 F54T5HO lamps, enhanced aluminum reflect., & dimming elect. ballast.	66																66

Schedule Q-1

Lighting Retrofit	Main Terminal	Building Maint	Vehicle & Field Maintenance	Warehouse#1	Warehouse#2	Warehouse#3	Old Electrical Vault	Sweeper	Dump11/Sterilizer12	New electrical Vault #13	ARFF Station	Customs/Cargo 4 FTZ	Butterfield Trail Golf Course - main bldg	Butterfield Trail Golf Course - maintenance # 1	Butterfield Trail Golf Course - maintenance # 2	Butterfield Trail Golf Course	Parking Lots	Totals
Install a 6' strip fixture with 1 4' T5HO lamp, 1 2' T5HO lamp, enhanced aluminum reflector, and dimming electronic ballast.	1																	1
Install a 4' strip fixture with 1 F54T5HO lamp, enhanced aluminum reflector, and dimming electronic ballast.	2																	2
Install a 2' strip fixture with 1 2' T5HO lamp, enhanced aluminum reflector, and dimming electronic ballast.	2																	2
Install a screw-in fluorescent retrofit.	11	8	2	1	1	1					5							29
Install 2 screw-in fluorescent retrofits.	15					1												16
Install a 8' angle wrap light fixture with specular reflector for 4 F54T5HO lamps.	10																	10
Install a 2-lamp 4' strip fixture.														1	2			3
Install a pulse start metal halide lamp and ballast. 320w	17																	17
Install a pulse start metal halide lamp and ballast. 175w	2																	2
Install a pulse start metal halide lamp and ballast. 750w	6																	6
Install a LED retrofit.	4												8					12
No retrofit required	1,854	17	28	9	6	1	10	9	9	53	69	173	6	4	74	224		2,842
<b>Totals</b>	<b>6,316</b>	<b>98</b>	<b>229</b>	<b>64</b>	<b>32</b>	<b>28</b>	<b>39</b>	<b>43</b>	<b>34</b>	<b>188</b>	<b>126</b>	<b>217</b>	<b>31</b>	<b>12</b>	<b>74</b>	<b>416</b>		<b>8,243</b>

**Table #2 - Lighting Controls Scope:**

Lighting Controls	Main Terminal	Building Maint	Vehicle & Field Maintenance	Warehouse#1	Warehouse#2	Warehouse#3	Old Electrical Vault	Sweeper Dump11/Sterilizer	New electrical Vault #13	ARFF Station	Customs/Cargo 4 FTZ	Butterfield Trail Golf Course - main bldg	Butterfield Trail Golf Course - maintenance # 1	Butterfield Trail Golf Course - maintenance # 2	Butterfield Trail Golf Course	Parking Lots	Totals
Install a ceiling-mount occupancy sensing lighting controller to automatically turn lights on and off.	217	7	8	2	7	1			4	11	4	11	4	3			279
Install a fixture-mounted occupancy sensing lighting controller to automatically turn lights on and off.	14																14
Install a wall-switch occupancy sensing lighting controller to automatically turn lights on and off.	322	20	4	8	2	8	4	2	2	13	13	13	7	1		1	420
Install a ceiling-mount occupancy sensing lighting controller to automatically turn lights on and off. (wireless)	137																137
Install a lighting controller to automatically dim and turn lights on and off based on the amount of daylight available. (wireless)	25																25
Install a lighting controller to automatically turn lights on and off based on the amount of daylight available. (wireless)	40																40
<b>Totals</b>	<b>755</b>	<b>27</b>	<b>12</b>	<b>10</b>	<b>9</b>	<b>9</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>24</b>	<b>17</b>	<b>24</b>	<b>11</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>915</b>

**DEMOLITION:**

- All demolition will be conducted in conformance with applicable laws.
- Existing lamps, ballasts and other materials will be removed from the site by JCI in accordance with Federal, State, and Local regulations. It is also the responsibility of JCI, acting as an agent for the City, to ensure the proper disposal of hazardous waste in accordance with the Federal, State and Local laws and regulations. If PCB light ballasts are found, they will be disposed of accordingly listing the City as the "City" and "Generator" of the ballast waste.

**EXCLUSIONS:**

- Unless specified to be replaced in this FIM, all existing wiring to the fixtures is the responsibility of the City. If wiring and fixtures are not code compliant, it is the City's responsibility to bring them into compliance.

**COMMISSIONING:**

- Sample light level readings will be conducted for all new lighting systems and included in the O&M manuals.
- Refer to General Work for all close-out document requirements.

**TRAINING:**

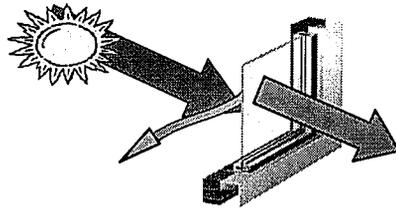
- One (1) day of on-site training will be provided to designated City personnel.

**WARRANTIES:**

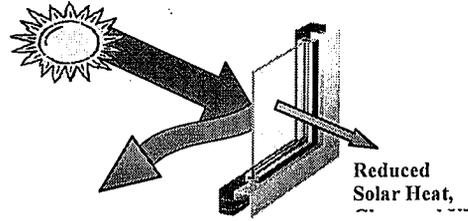
- City will be responsible for installation of warranted lamps, ballasts, occupancy sensors & wireless controllers beginning at the date of Substantial Completion. A minimum 1% stock of ballasts, 2% stock of lamps, 2% stock of occupancy sensors & 2% stock of wireless controllers will be provided by JCI after completion of installation to help accommodate any warranty period failures.
- Specific details for applicable extended warranties will be provided in the O&M manuals.

**FIM #:** 2

**FIM NAME:** Window Film



**Existing Window**



**Proposed Window**

**FIM DESCRIPTION:**

This FIM will include installation of window film in designated locations throughout the facilities. This FIM will reduce solar heat gain, thus providing cooling energy and peak demand savings. In addition, the film will improve the insulating properties of the windows involved, resulting in additional cooling savings along with some heating savings during the cooler months.

The Hanita Coatings Low-E 20 film is a low-E film that significantly reduces solar heat gain through windows. The film has a low emissivity factor indicating the film's ability to reflect infrared heat without absorption. The film also has low reflecting qualities and allows visible light transmission. This film allows visibility from the interior to the exterior without affecting the film's solar performance.

Hanita Coatings Low-E 20 film has the following specifications:

- Shading Coefficient: 0.24
- U-Value (winter median): 0.79
- Total solar energy rejection: 80%
- Ultraviolet Transmission: <1%

**GOALS:**

- Utility savings
- Enhancement of the exterior appearance of the buildings.
- Improved comfort of building occupants by significantly reducing hot and cold spots
- Reduction of distracting glare and improved view out of the buildings.
- Provide protection against harmful UV radiation for both occupants and building furnishings.

**ASSUMPTIONS:**

- Window film installation is to be completed on the interior surface of the windows.
- Existing windows are free from defects

**FINAL ENGINEERING:**

- Development of equipment submittals.

**SCOPE OF WORK:**

- The solar film will be applied on 28,257 sqft of glass as follows:
  - Main Terminal: 25,544 sqft
  - Guardshack 603: 68 sqft
  - Guardshack 606: 68 sqft
  - General Aviation Customs: 598 sqft
  - Auto Shop: 372 sqft
  - ARFF 454 sqft
  - Golf Maintenance 81 sqft
  - Golf Clubhouse 1,072 sqft

**DEMOLITION:**

- No demolition is needed

**EXCLUSIONS:**

- This scope does not include existing windows with performance levels sufficient to block the majority of the solar radiation.

**COMMISSIONING:**

- Refer to General Work for all close-out document requirements.

**TRAINING:**

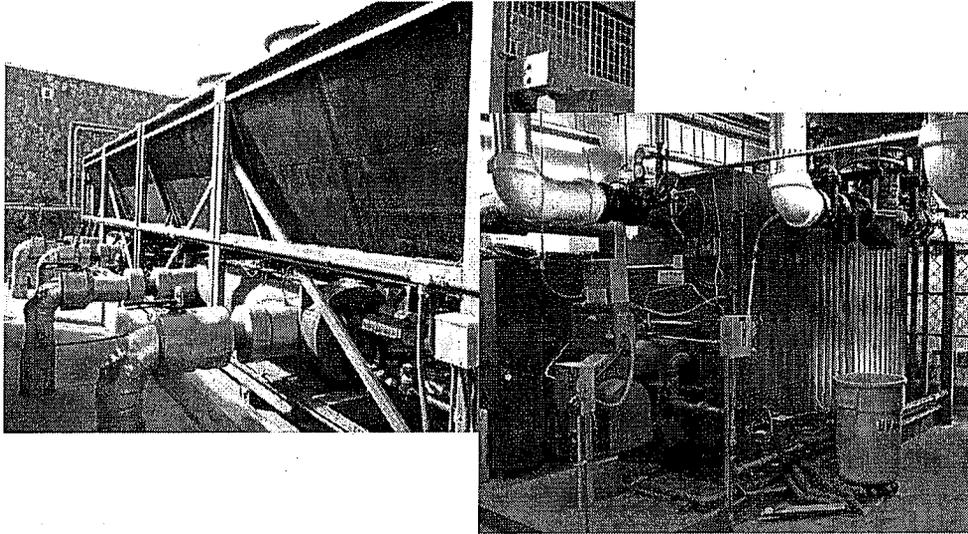
N/A

**WARRANTIES:**

- Five (5) year extended warranty on glass thermal shock – labor and materials
- Twelve (12) year extended warranty against film failure – labor and materials
- Specific details for applicable extended warranties will be provided in the O&M manuals.

**FIM #:** 3

**FIM NAME:** Central Plant & AHU-26 Upgrades



**FIM DESCRIPTION:**

This FIM will include Central Plant and AHU-26 upgrades. The work will include boiler replacement; air cooled chiller replacement; pump replacement, piping modifications and AHU-26 VAV conversion. These improvements will provide increased HVAC equipment reliability as well as utility savings and operational and maintenance savings.

**GOALS:**

- Improved reliability of HVAC systems
- Upgrade of outdated HVAC equipment
- Improved indoor temperatures
- Energy cost savings
- Operation & maintenance savings
- Capital cost savings

**ASSUMPTIONS:**

- Unless specified to be replaced in this Scope of Work, all AHU motors are in good working condition.
- Existing wiring and equipment are in good working condition and meet current code requirements.

**FINAL ENGINEERING:**

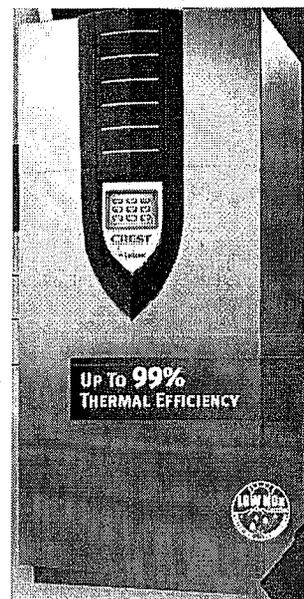
- Development of construction drawings and equipment submittals.

**SCOPE OF WORK:****New High Efficiency Boilers****Demo:**

- Remove and discard two (2) existing Cleaver Brooks hot water boilers (model #: FLX-800), associated primary pumps and piping.

**New Work:**

- Furnish and install four (4) new modulating, condensing, forced draft, Internal Ignition, Natural gas boilers. (Lochinvar Model FB 3500 or similar).
- Furnish and install four (4) new primary loop pumps with VFD's at each boiler – Pump: 81-323 GPM, 43' head, 5 hp.
- Each boiler will feature a controller with a touch screen display, password security, outdoor air reset, pump delay with freeze protection, pump exercise, and PC port connection. The boiler shall have alarm contacts for any failures, runtime contacts and data logging of runtime, ignition attempts and ignition failures. The boiler shall allow 0-10 VDC input connection for FMS control and have built-in "Cascade" to sequence and rotate while maintaining modulation of up to eight boilers without utilization of an external controller.
- Equipment will include factory installed BACNET controls interface hardware.
- Route new piping to tie-in to primary loop.
- Furnish and install a balancing valve at the outlet of each boiler.
- Each boiler shall have manual shutoff valves on supply and return lines.
- Fill valves must be used with backflow preventers.
- Condensate drains are to be manifolded together using copper pipe and be capable of handling up to 20 gallons per hour per boiler.
- Route new boiler exhaust line to tie into existing exhaust header.
- The flue shall be sealed vent material terminating at the rooftop with the manufacturer's specified vent termination.
- Provide and install all required electrical wiring for proper operation.

**Cooling Tower Refurbishment****Demo:**

- Remove existing cooling tower fill elements.

**New Work:**

- Inspect and repair/replace all tower nozzles and risers as needed.
- Inspect and repair/replace all tower piping as needed.
- Wash all interior tower surfaces to assure they are free of scale and algae.
- Repair tower leaks.
- Seal tower basin.
- Furnish and install new tower fill elements to match existing.

**Plate and Frame Heat Exchanger Modifications****Demo:**

- Remove existing hot water piping leading to existing plate and frame heat exchanger.

**New Work:**

- Re-connect hot water loop to a complete and operational hot water system.
- Chilled water system modifications:

## Schedule Q-1

- Furnish and install new eight inch (8") chilled water line from primary chilled water loop to entering side of existing plate and frame heat exchanger.
- Furnish and install new eight inch (8") chilled water line to leaving side of existing plate and frame heat exchanger to primary chilled water loop.
- Furnish and install one (1) new HEP-1 heat exchanger pump for heat exchanger loop.
- If necessary, install new test ports at inlets and outlets of existing plate and frame heat exchanger and condenser water pump for TAB work.
- Clean existing plate and frame heat exchanger to remove any existing scale.

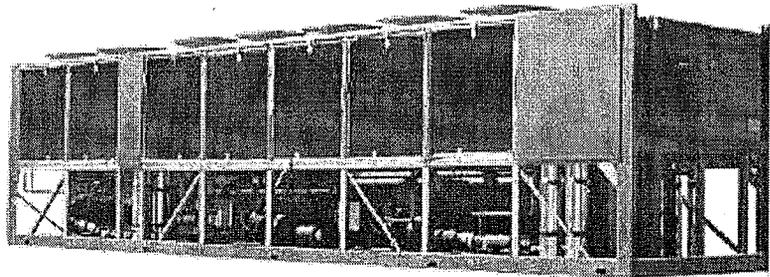
### New High Efficiency Chillers

#### Demo:

- Remove three (3) existing York 371 ton air cooled chillers.
- Remove three (3) existing primary chiller water pumps.

#### New Work:

- Furnish and install three (3) new 380 ton air-cooled chillers with factory installed BACNET controls interface hardware.
- Header the 2 - existing 6" supply piping into 1 - 10" pipe for connections to each chiller.
- Header the 2 - existing 6" return piping into 1 - 10" pipe for connections to each chiller.
- Furnish and install three (3) new primary chilled water pumps, 920 gpm, 60ft head each.
- Ensure proper operation of heat trace wiring on all exterior piping. Provide repair or replace as necessary for proper operation.
- If necessary, install new test ports at inlets and outlets of new chillers and new primary chilled water pumps for TAB work.
- Furnish and install all necessary electrical wiring and devices for a complete and operational system.
- Furnish and install all necessary mechanical fitting and devices for a complete and operational system.



### AHU-26 VAV Conversion

#### Demo:

- Remove existing electrical supply in order to prepare for VFD installation.

#### New Work:

- Furnish and install one (1) new 7.5hp VFD for AHU-26.
- Furnish and install five (5) new 1000cfm VAV boxes with hot water reheat.
- Furnish and install five (5) new 1000cfm VAV boxes with no reheat.
- Install all necessary hot water piping and accessories to provide hot water to new VAV boxes.
- Install DDC hot water control valves at each hot water reheat VAV box.
- Re-use a majority of existing AHU-26 supply duct.
- Provide new duct work from main supply to new VAV boxes.
- Where possible, re-use existing flex duct to connect new boxes to existing diffusers. Provide new flex duct where needed.

### Testing, Adjusting & Balancing (TAB)

- Four (4) new boilers and four (4) new primary hot water pumps

## Schedule Q-1

- Two (2) existing secondary hot water pumps.
- Three (3) new chillers and three (3) new primary chilled water pumps.
- Two (2) existing secondary chilled water pumps.
- One (1) existing plate and frame heat exchanger, one (1) existing condenser water pump and one (1) new HEP-1 heat exchanger water pump.
- One (1) existing AHU (AHU-26), ten (10) new VAV boxes and existing supply diffusers (served by AHU-26).

### EXCLUSIONS:

- Refer to General Exclusions.

### COMMISSIONING:

- Refer to General Work for all close-out document requirements.

### TRAINING:

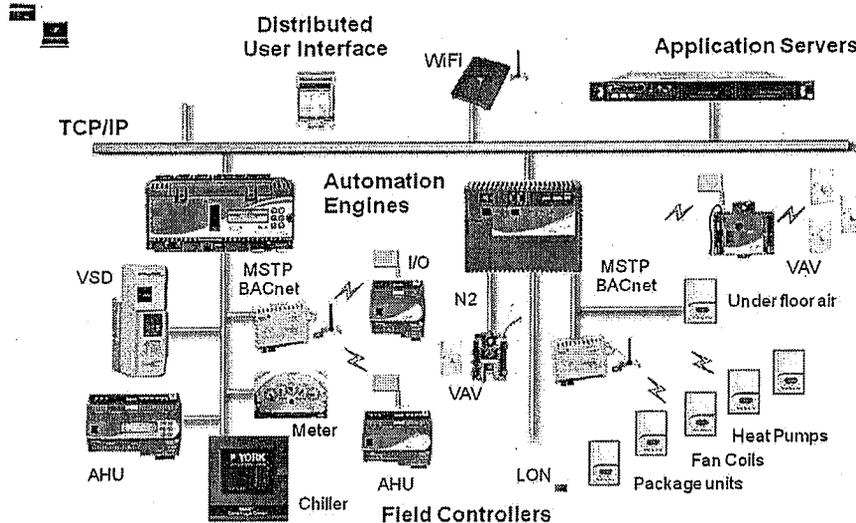
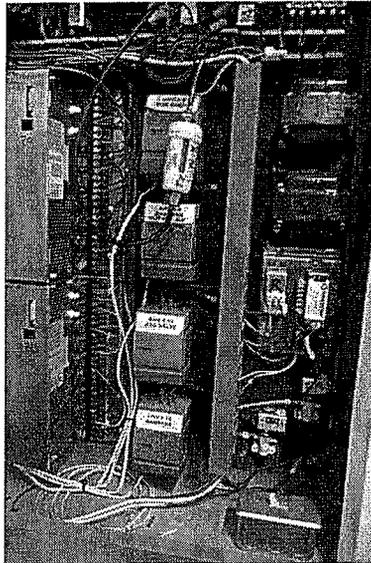
- One (1) day of on-site training will be provided to designated City personnel.

### WARRANTIES:

- Five (5) year extended warranty on materials and labor for new chiller compressors.
- One (1) year warranty on materials and labor beginning at the date of Substantial Completion.
- Specific details for applicable extended warranties will be provided in the O&M manuals.

FIM #: 4

FIM NAME: Facility Management System

**FIM DESCRIPTION:**

This FIM will improve the overall HVAC system operational efficiency and renew the HVAC control system at the Airport terminal.

**GOALS:**

- Improved indoor temperatures
- Upgrade of outdated HVAC controls
- Reduced runtime of HVAC equipment
- Utility savings
- Operation & maintenance savings
- Capital cost savings
- Consolidation of multiple control systems

**ASSUMPTIONS:**

- Unless specified to be replaced in this Scope of Work, all AHU motors are in good working condition.
- Unless specified to be replaced in this Scope of Work, all existing HVAC controls (pneumatic & electronic) are functional and in good working condition.
- JCI shall use existing Airport Ethernet for direct digital control (DDC) communications.
- Airport shall provide and allow remote internet access to new DDC system.

**FINAL ENGINEERING:**

- Development of construction drawings and equipment submittals.

**SCOPE OF WORK:****General – DDC Controls**

- All new controls will be DDC controls.
- If new software update is released before the one-year warranty of this FIM expires, JCI will provide new software version to the City at no additional cost. After the one-year warranty expires, City will be responsible for any costs associated with software upgrades...
- Dynamic graphics. Graphics shall include:
  - Central plant equipment
  - AHU's and RTU's
  - Floors plans with locations of each AHU, RTU and fan coil unit. Floor plans shall also indicate areas served by each AHU, RTU and fan coil unit
- Provide user-friendly HVAC equipment scheduling screens.
- Complete set of control drawings including sequences of operation shall be submitted for City review prior to any installation work.
- All room sensors shall be sensor only with heat/cool lever & no temperature display.
- All controls mounted and wired as specified.
- All new power wiring shall be in EMT or rigid conduit in mechanical rooms or exposed areas and as required by applicable electrical codes.
- All new Class 2 signal wiring will be installed as plenum-rated cable above accessible lay-in ceilings.
- Control, control power and interlock wiring will be performed according to applicable electrical codes to provide a turnkey installation.
- Verify proper operation of all existing AHU, RTU and fan coil unit freezestats. Repair or replace freezestats as necessary.
- Inspect all existing AHU, RTU and fan coil unit firestats & smoke detectors and provide deficiency report to the City.

**New DDC Controls – 1996 & 1999 HVAC Systems**

- Controls interface for three (3) new chillers. Any controls points needed for sequence of operation not available through BACNET interface shall be provided.
- Controls for the two (2) secondary CHW pumps (w/VFD) and three (3) primary CHW pumps.
- Controls interface for four (4) new boilers. Any controls points needed for sequence of operation not available through BACNET interface shall be provided.
- Four (4) flow meters for new boilers.
- Controls for two (2) secondary HW pumps and four (4) primary HW pumps (w/VFD)
- Differential pressure transmitters to control secondary CHW and HW VFD's.
- Controls for one (1) cooling tower, one (1) condenser water pump, one (1) plate & frame heat exchanger and one (1) new CHW heat exchanger pump (w/VFD).
- Controls for all AHU's, RTU's, fan coil units, DX split-systems and VAV boxes.
- Operational interlocks between AHU, RTU and any associated Return or Relief fans.
- All AHU's and RTU's have economizer dampers. Provide and install new DDC OA, RA and Relief damper operators and all necessary mounting hardware for AHU's and RTU's.
- Provide CO2 control of OA dampers for all AHU's and RTU's. Provide thirty-six (36) new CO2 sensors.

**New DDC Controls – 2003 Expansion**

- Furnish and install controls for all RTU's.
- Provide CO2 control of OA dampers for all RTU's. Provide three (3) new CO2 sensors.

**New DDC Controls – 2007 Expansion**

- Existing DDC controls shall remain.
- Provide CO2 control of OA dampers for all RTU's. Provide five (5) new CO2 sensors.

**New DDC HW and CHW Valves**

**AHU's**

- Replace the existing twelve (12) each two-way pneumatic chilled water valves with new two-way DDC chilled water valves.
- Replace the existing twelve (12) each two-way pneumatic hot water valves with new two-way DDC hot water valves.
- Replace the existing four (4) each three-way pneumatic chilled water valves with new three-way DDC chilled water valves.
- Replace the existing four (4) each three-way pneumatic hot water valves with new three-way DDC hot water valves.

**RTU's**

- Replace the existing fifty (50) each two-way pneumatic chilled water valves with new two-way DDC chilled water valves.
- Replace the existing fifty (50) each two-way pneumatic hot water valves with new two-way DDC hot water valves.
- Replace the existing two (2) each three-way pneumatic chilled water valves with new three-way DDC chilled water valves.
- Replace the existing two (2) each three-way pneumatic hot water valves with new three-way DDC hot water valves.

**FCU's**

- Replace the existing eighteen (18) each two-way pneumatic chilled water valves with new two-way DDC chilled water valves.
- Replace the existing eighteen (18) each two-way pneumatic hot water valves with new two-way DDC hot water valves.

**New DDC Controls Point List**

**Chiller Plants**

- Provide controls interface to factory installed BACNET controller to view all available chiller data
- Optimum start/stop of chillers and associated pumps
- Chiller outlet temperatures
- Common chiller return temperature
- Chiller start/stop and status
- Chilled water pump start/stop and status
- Chilled water temperature reset
- Chiller alarm
- Secondary chilled water pump VFD control & speed
- Building chilled water supply & return temperatures

**Cooling Tower**

- Cooling tower fan start/stop and status
- Condenser water inlet & outlet temperatures
- Condenser water pump start/stop and status
- Tower sump level alarm

**Plate & Frame Heat Exchanger**

- Chilled water inlet & outlet temperatures
- Chilled water heat exchanger pump start/stop and status
- Chilled water heat exchanger pump VFD control & speed

**Heating Water Plant**

- Provide controls interface to factory installed BACNET controller to view all available boiler data
- Optimum start/stop of boilers and associated pumps
- Boiler outlet temperatures
- Common boiler return temperature
- Boiler flow GPM
- Heating water temperature reset
- Boiler alarm
- Heating water pump start/stop and status
- Secondary heating water pump VFD control & speed
- Building heating water supply & return temperatures

**Chilled & Heating Water AHU's & RTU's**

- Optimum start/stop of supply and/or return fan
- Scheduling and unoccupied setup & setback
- Supply air temperature reset (MZU, VAV units only)
- Space, mixed air & supply air temperatures
- Fan status
- Supply & return fan VFD control & speed, where applicable
- CO2 control of minimum motorized outside air damper
- Economizer cycle
- Freezestat protection
- Multizone damper control, AHU-20 (has existing DDC actuators)
- AHU RTU-38 & 39 interlocked with EF-22,23,24
- RTU-31 interlocked with EF-20,21,22
- RTU-15A & 15B interlocked with EF-18,19
- AHU-12 interlocked with EF-15
- AHU-20 interlocked with EF-16
- AHU-27 interlocked with EF-17

**Chilled & Heating Water Fan Coil Units**

- Optimum start/stop of fan coil units
- Scheduling and unoccupied setup & setback
- Space, mixed air & supply air temperatures
- Fan status
- Freezestat protection

**Package HVAC Units**

- Optimum start/stop of package units
- Scheduling and unoccupied setup & setback
- Space, mixed air & supply air temperatures
- Fan status
- CO2 control of minimum motorized outside air damper, where applicable
- Economizer cycle, where applicable

**VAV Boxes**

- Scheduling and unoccupied setup & setback
- Space & supply air temperatures
- Box CFM
- Reheat control, where applicable

**HVU's**

- Space Air Temperature
- Reheat control

**DEMOLITION:**

- Remove existing pneumatic chilled water and hot water control valves.
- Remove existing control panels and demo conduit to ceiling space if not reused.
- Existing thermostats – provide wall plates to blank off openings where applicable.
- Remove all existing pneumatic damper actuators.
- Remove all pneumatic tubing (copper and poly) in mechanical rooms up to ceiling space or roof structure.
- Air compressors to be disconnected and left in place for removal by City.

**EXCLUSIONS:**

- Repairs to existing fire & smoke controls and associated wiring. During construction, JCI will inspect existing AHU firestats & smoke detectors and provide deficiency report to the Owner.
- Repairs to existing pneumatic and electronic controls unless specified to be replaced in this Scope of Work.
- City Ethernet wiring.

**COMMISSIONING:**

- Operational acceptance tests will be conducted for all new DDC controls.
- Refer to General Work for all close-out document requirements.

**TRAINING:**

- Two (2) days onsite training will be provided for new controls system.

**WARRANTIES:**

- One (1) year warranty on materials and labor beginning at the date of Substantial Completion.
- Specific details for applicable extended warranties will be provided in the O&M manuals.

## ASSURED PERFORMANCE GUARANTEE

### I. PROJECT BENEFITS

A. **Certain Definitions.** For purposes of this Attachment, 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 Attachment.

**Installation Period** is the period beginning on Contractor's receipt of City'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 City and will be deemed achieved in accordance with the schedule set forth in the Total Project Benefits table below. City and Contractor 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 Contractor's control, and (iii) City 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 Contractor 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 Attachment.

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

B. **Project Benefits Summary.** Subject to the terms and conditions of this Attachment, Contractor guarantees that City will achieve a total of \$4,660,668 in Measured Project Benefits during the term of this Attachment, for Total Project Benefits of \$6,404,923, as set forth in the Total Project Benefits table below.

**Total Project Benefits**

Year	Utility Cost Avoidance*	Operation & Maintenance Cost Avoidance**	Future Capital Cost Avoidance**	Annual Project Benefits
Installation Period	\$81,513	\$0	\$0	\$81,513
1	\$399,442	\$34,391	\$116,500	\$550,333
2	\$411,425	\$35,423	\$187,000	\$633,848
3	\$423,768	\$36,485	\$175,500	\$635,753
4	\$436,481	\$37,580	\$163,500	\$637,561
5	\$449,575	\$38,707	\$151,000	\$639,283
6	\$463,063	\$39,869	\$138,500	\$641,431
7	\$476,955	\$41,065	\$125,000	\$643,019
8	\$491,263	\$42,297	\$111,500	\$645,060
9	\$506,001	\$43,565	\$98,000	\$647,567
10	\$521,181	\$44,872	\$83,500	\$649,554
<b>Totals</b>	<b>\$4,660,668</b>	<b>\$394,254</b>	<b>\$1,350,000</b>	<b>\$6,404,923</b>

\*Utility Cost Avoidance is a Measured Project Benefit. Utility Cost Avoidance figures in the table above are based on anticipated increases in unit energy costs as set forth in the table in Section IV below.

\*\* Operations & Maintenance Cost Avoidance and Future Capital Cost Avoidance are Non-Measured Project Benefits. Operations & Maintenance Cost Avoidance and Future Capital Cost Avoidance figures in the table above are based on mutually agreed upon values for each year.

Within sixty (60) days of the commencement of the Guarantee Term, Contractor will calculate the Measured Project Benefits achieved during the Installation Period plus any Non-Measured Project Benefits applicable to such period and advise City of same. Any Project Benefits achieved during the Installation Period may, at Contractor'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, Contractor will calculate the Measured Project Benefits achieved for the applicable year plus any Non-Measured Project Benefits applicable to such period and advise City of same.

**City 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 Q-4, (iii) fails to fulfill any of its responsibilities necessary to enable Contractor to complete the Work and provide the M&V Services, or (iv) otherwise cancels, terminates or materially breaches this Attachment, the Assured Performance Guarantee shall automatically terminate and Contractor shall have no liability hereunder.**

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

- (i) **Project Benefits Shortfalls.** If an Annual Project Benefits Shortfall occurs for any one year of the Guarantee Term, Contractor shall, at its discretion and in any combination, (a) set off the amount of such shortfall against any unpaid balance City then owes to Contractor, (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 City the amount of such shortfall, or (d) subject to City's agreement, provide to City additional products or services, in the value of such shortfall, at no additional cost to City.
- (ii) **Project Benefits Surpluses.** If an Annual Project Benefits Surplus occurs for any one year of the Guarantee Term, Contractor may, at its discretion and in any combination, (a) apply the amount of such surplus to set off any subsequent Annual Project Benefit Shortfall

**Schedule Q-2**

during the Guarantee Term, or (b) bill City 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.\*

- (iii) Additional Improvements. Where an Annual Project Benefits Shortfall has occurred, Contractor may, subject to City's approval (which approval shall not be unreasonably withheld, conditioned, or delayed), implement additional Improvement Measures, at no cost to City, which may generate additional Project Benefits in future years of the Guarantee Term.

**II. NON-MEASURED PROJECT BENEFITS**

The sources of non-measured project benefits stem from items that were in the long range capital budget that will no longer need to be purchased. The cost avoidance for O&M is based upon materials for replacing lighting and mechanical equipment related to the HVAC systems in the near future. There will also be reduced run time on the mechanical HVAC equipment due to a new control system being installed, extending the life cycle of said installed and existing equipment.

Source of Non-Measured Project Benefits	First Year Project Benefits	Escalation
Operations and Maintenance - Lighting	\$9,391	3%
Operations and Maintenance - HVAC	\$20,000	3%
Operations and Maintenance - Controls	\$5,000	3%
HVAC Capital Cost Avoidance	\$116,500	

**III. MEASUREMENT AND VERIFICATION METHODOLOGIES**

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

The following Table III-1 provides the M&V approach for each Facility Improvement Measure (FIM) for each facility. Savings for the various FIMs are calculated using industry standard energy savings methods.

**Table III-1: FIM M&V Approach**

Facility	SF	FIM #1 Lighting Retrofits	FIM #2 Solar Window Film	FIM #3 HVAC Upgrades	FIM #4 New DDC	M&V Option
Terminal	358,000	X	X	X	X	C
Maintenance & Customs	22,955	X	X			A
Warehouse I, II, III	23,625	X				A
ARFF	14,850	X	X			A
New Lighting Vault	3,300	X				A
Cargo 4	10,000	X				A
Sterilizer	200	X				A
Old Lighting Vault	2,325	X				A
Butterfield Trail Golf Course	15,100	X	X			A

- 29.3 Additionally, authorized representatives and agents of the City, State or Federal agencies, if applicable, shall be permitted to interview any personnel performing work on behalf of or in relation to the project, including but not limited to, field and office personnel.

**30. PROTECTION OF WORK AND PROPERTY**

- 30.1 In the event of temporary suspension of work, or during inclement weather, or whenever the City or City's designated representative shall direct, the Contractor will, and will cause his/her subcontractors, to protect carefully his/her and their work and materials against damage or injury from the weather or any other cause.
- 30.2 If, in the opinion of the City or City's designated representative, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his/her subcontractors to so protect his work or materials, all such work or materials shall be removed or replaced at the expense of the Contractor.

**31. PROTECTION OF WORK AND PROPERTY - EMERGENCY**

- 31.1 The Contractor shall at all times safely guard the City's property from injury or loss in connection with this contract. The Contractor shall at all times safely guard and protect his/her own work and that of adjacent property from damage.
- 31.2 In case of an emergency which threatens loss or injury of property and/or safety of life, the Contractor will be allowed to act, without previous instructions from the City or City's designated representative, in a diligent manner. However, the Contractor shall notify the City or City's designated representative immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the City or City's designated representative for approval.
- 31.3 Inclusion of this paragraph in the Attachment, as well as any notice which may be given by the City or the City's designated representative concerning omissions under this paragraph as the work progresses, are intended as reminders to the Contractor of his duty and shall not be construed as any assumption of duty to supervise safety precautions by the Contractor or any of his subcontractors.

- 32. MUTUAL RESPONSIBILITY OF CONTRACTOR.** If, through acts of negligence on the part of the Contractor, any other Contractor or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or subcontractor by agreement or arbitration if such other Contractor or subcontractor will so settle. If such other Contractor or subcontractor shall assert any claim against the City on account of any damage alleged to have been sustained, the City shall notify the Contractor, who shall indemnify and save harmless the City against any such claim.

**33. PREVAILING WAGE RATES AND WAGE RATE PENALTY**

- 33.1 The Contractor and any subcontractor under him shall not pay less than the general prevailing wage rates contained in Schedule M-12 to Amendment #1, to all laborers, workmen and mechanics employed by them in the execution of this contract.
- 33.2 The general prevailing wage rates contained herein shall be posted at the construction work site in a prominent and accessible place where it can easily be seen by all laborers, workmen and mechanics employed on the project.
- 33.3 Pursuant to Chapter 2258, Texas Government Code, the Contractor shall forfeit (or pay to the City of El Paso), as a penalty to the City of El Paso, Sixty Dollars (\$60.00) for each laborer, workman or mechanic employed, for each calendar day, or portion thereof such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under said contract, by him, or by any subcontractor under him.

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:

**Lighting Retrofits (Non-Terminal Facilities)**

Pre-Retrofit:

- JCI will measure power kW in the electrical circuit of each type of lighting system during operating hours for the facility (excluding those less than 10 watts per fixture) for connected load before the lighting retrofit. Per fixture kW will be derived by dividing the measured circuit wattage by the number of fixtures on that circuit. Each circuit contains, within a justifiable margin, uniform fixture type and wattage. Sampling for each fixture type will follow IPMVP guidelines to ensure 80% confidence and 20% error in measured kW.
- Pre-retrofit lighting operating hours were established using light loggers and site interviews for each facility. Each facility was separated into typical room types. Pre-retrofit lighting operating hours can be found in Table V-2 of Section V.

Post-Retrofit:

- JCI will measure power kW (one time) in the electrical circuit of each type of lighting system during operating hours for the facility (excluding those less than 10 watts per fixture) for connected load after the lighting retrofit. Per fixture kW will be derived by dividing the measured circuit wattage by the number of fixtures on that circuit. Each circuit contains, within a justifiable margin, uniform fixture type and wattage. Sampled light fixtures will consist of the same fixtures measured during the pre-retrofit period.
- Except for areas where new occupancy sensors will be installed, post-retrofit lighting operating hours will be the same as pre-retrofit lighting operating hours. For areas where new occupancy sensors will be installed, JCI will install a sample of light loggers (one time) to verify the post-retrofit lighting operating hours.
- Annual cooling and heating savings due to the lighting retrofits in conditioned areas were calculated based on cooling and heating equipment efficiency and operating hours. These savings will be stipulated.

**Solar Window Film Application (Non-Terminal Facilities)**

Description:

The savings for solar window film are produced by reducing radiant heat absorbed through the glass while adding a small insulation component to the glass. The savings were modeled using the Eflim building simulation program. Eflim computer program is based on EnergyPlus simulation engine, which is developed under the continuous funding of United States Department of Energy (U.S. DOE). EnergyPlus incorporates the best features of DOE 2.1E and BLAST and is also enhanced with the use of latest programming techniques and latest generation of FORTRAN compilers. The program has been thoroughly tested and validated, and DOE is pledging full support only for the program developments in the future. Johnson Controls will ensure that the installed equipment meets or exceeds the efficiency ratings used in the detailed energy calculations and will certify through field measurements that the window coverage is accurate. Any discrepancies in window coverage will result in an update in calculations.

M&V Scope:

Johnson Controls will ensure that the installed window film meets or exceeds the efficiency ratings used in the detailed energy calculations. Johnson Controls will certify through one time field measurements that the window film coverage is accurate. Any discrepancies in window coverage will result in an update in the calculations. The measured value will be the square foot of coverage as shown in the savings calculations. Energy consumption in kWh will be stipulated based on the EnergyPlus simulation model. The El Paso Airport is responsible for ensuring that the film remains in place.

**Option C**  
**Whole Facility**

Option C involves use of utility meters or whole building sub-meters to assess the energy performance of a total building. Option C assesses the impact of any type of Improvement Measure, but not individually if more than one is applied to an energy meter. This option determines the collective Measured Project Benefits of all Improvement Measures applied to the part of the facility monitored by the energy meter. Also, since whole building meters are used, Measured Project Benefits reported under Option C include the impact of any other change made in facility energy use (positive or negative).

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

The Option C M&V approach will be utilized for the Main Terminal.

**JCI Option C - M&V Approach**

**A. Objectives**

In order to accurately assess the effectiveness of a performance contract, it is necessary to be able to make comparisons of pre-retrofit and post-retrofit conditions under similar terms. To do this, baselines are established to document pre-retrofit conditions and serve as the basis for post-retrofit analysis. For the purpose of this schedule "Baseline" is defined as a specific period of time and any data, used for, or resulting from, the analysis of that period.

The following methodology will be used to calculate unit savings:

- a. The program applies baseline data for the specified "tuning period" to the regression calculation detailed in 1(c) or 1(d).
- b. The program attempts to establish a relationship between utility consumption and the independent variable(s) (e.g. HDD, CDD, User defined1, etc.). Coefficient(s) of consumption per unit will be tuned and documented for variables where such a relationship can be established.
- c. During the post retrofit period the pre-retrofit coefficients and the post retrofit variable data are applied to the regression calculation to adjust for differences in conditions. This projects an adjusted baseline which represents what would have been consumed had no facility improvement measures been implemented.
- d. The units saved are equal to this adjusted baseline minus the actual consumption for the billing period. The adjusted baseline referred to in this document is equivalent to the "baseline scenario" in Metrix.

The regression analysis methodology used in this agreement is capable of making adjustments for changes in base load, heating degree-days, cooling degree-days, and up to three other variables. The inclusion of any variables will be mutually agreed upon by JCI and the Customer and supported by regression analysis documentation. In addition, some consumption may be allocated to tuning period modifications if any are defined.

**B. Application of Regression Analysis Calculation**

## 1. Definitions

- (a) Base Line - The Base Line(s) are the relationship(s) of each utility consumption to independent variables during a representative pre-retrofit tuning period. The Base Line is determined by utilizing the Regression Analysis Calculations defined in sections 1(c) and 1(d).
- (b) Adjusted Base Line - The Adjusted Base Line(s) estimates post-retrofit utility consumption using the same Regression Analysis Calculation plus any modifications (as described in section 2(c)). The Adjusted Base Line represents an estimate of utility consumption had no Facility Improvement Measures been implemented.
- (c) Regression Analysis Calculation - Regression Analysis is the means by which the relationship(s) between utility consumption and other variables is determined. The relationships documented in the following sheets were established using SRC Systems, Inc.'s Metrix™ utility accounting software program. Following is the equation utilized to both establish the Base Line and serve as the basis for post-retrofit analysis:

The inputs and outputs to the equation vary depending on whether the equation is being applied to the pre-retrofit tuning period or the post retrofit tracking period. Once the coefficients  $B$ ,  $D_c$  and the base temperature  $T_{B_c}$  have been obtained by regression, they remain fixed and are used to derive adjusted meter consumption for all future time periods.

$$E = [B * \Delta t + D_c * CDD(T_{B_c})] * Multiplier$$

where:

- E = Adjusted Base Line Consumption throughput through meter. During the post retrofit period this value represents what the consumption would have been under current conditions (weather, etc.) had no Facility Improvement Measures (FIMs) been implemented.
- B = Base load consumption per unit of time (Utility Units/day), that part of the meter consumption that is independent of (cannot be correlated to) any of the independent variables, including the degree-days. This consumption will be present no matter what the weather conditions or other independent variables are. This fixed value, dependent only on the number of days in the period being evaluated, is determined when defining the Base Line.
- $\Delta t$  = Time interval (days) in analysis period.
- $D_c$  = Coefficients for Cooling Degree-days (Utility units/deg-day). This fixed value, which is determined when defining the Base Line, define the sensitivity of consumption to changes in weather.
- CDD = Cooling degree-days ( $^{\circ}$ F-day or  $^{\circ}$ C-day) for the period being analyzed;
- $T_{B_c}$  = Cooling degree-day base (or balance point) temperatures ( $^{\circ}$ F or  $^{\circ}$ C) upon which the CDD value is derived. This balance point temperature represent the outdoor air temperature at which utility consumption begins to react to any further change in outdoor temperature. When outdoor air temperature is equal to balance point temperature heat loss = heat gain.
- Multiplier = The multiplier in this case is used to account for actual consumption during the base year that was (not) accounted for with the regression model. The same multiplier(s) will be used during the guaranteed period to correct for the baseline monthly inaccuracies in the regression.

## 2. Base Line Calculations

Following is a summary of how a Base Line is developed:

## 2a. Select a Tuning Period

The first step in developing a Base Line is to identify a pre-retrofit period of time that is representative of physical and operational conditions within the premises. In Metrix™, this period of time is known as the

Tuning Period. Dallas / Ft. Worth weather data was used as it is the closest weather data available in the software.

2b. Develop Monthly Multiplier/Offset Values

The Regression Analysis Calculation shown in section 1(c) or 1(d)) is then compared to each individual monthly baseline consumption to determine monthly multiplier/offset values. The multiplier/offset values correct the annual regression analysis calculation to monthly variations. These variations are minor and limited to an annual error of less than  $\pm 10$  percent. The multiplier in this case is used to account for actual consumption during the base year that was (not) accounted for with the regression model. The same multiplier(s) will be used during the guaranteed period to correct for the baseline monthly inaccuracies in the regression.

2c. Modifications to the Base Line

A modification is made up of a # of units to be applied, a time period to apply the units, and a description of why the modification is being applied.

(1) Annual Periodic Modifications.

Annual Periodic Modifications are used to adjust the base line consumption for anomalies that occurred during the Tuning Period because of operational procedures or abnormal conditions that occurred. These "out of line" consumption periods cause the regression equation to over or under predict consumption. A modification helps to fit the equation's predicted value to the actual value that occurred during the tuning period. Future consumption can be predicted with a high degree of confidence once the predicted and actual tuning period consumption are matched properly.

(2) Additional Modifications.

During the term of the Agreement, it may also be necessary to make modifications to the base line, as a result of physical or operational changes within the premises that are beyond the agreed upon conditions of this Agreement and as implied by the base line values of any independent user variable as defined in section 1(c).

3. Utility Consumption Savings

Monthly weather data, including average daily temperatures, Heating and Cooling Degree Day information, Length of period, billing period, billing consumption will be input into the Regression software. The climatic data is used to modify the baseline by adjusting for variations in weather and billing cycle, in essence, determining how the original building would have performed within the performance period. This modified baseline is then compared to the actual performance periods' utility data to determine the savings from the retrofit.

Regression Analysis Calculations for each electric and gas meter serving the Main Terminal can be found in Section IV of this Agreement.

**Unit Utility Costs:**

Explanation of the rate tariffs can be found in Section IV of this Agreement. Unit costs are based on an evaluation of the rate tariffs applied to a base year of utility data.

**Baseline Adjustments:**

Baseline adjustments will be made to adjust for the actual post retrofit weather, occupancy, conditioned square footage and equipment as described earlier in this plan. These adjustments will simply estimate how the complex would have operated if the original equipment were still installed. Increase/decrease in conditioned square footage and addition/deletion of equipment may also require a baseline adjustment.

The regression model software makes weather adjustments automatically. All other adjustments will be developed utilizing the following:

- Modifications to calculations included in Appendix A of the Utility Assessment Report – ESPC Phase V dated August 2012
- Sub-metering
- New calculations

There must be mutual agreement between the City and JCI before baseline adjustments are determined to be conclusive.

**CHANGES IN USE OR CONDITION; ADJUSTMENT TO BASELINE AND/OR ANNUAL PROJECT BENEFITS**

City agrees to notify Contractor, 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 Attachment.

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 Attachment; (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 Contractor); (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 Contractor to make an adjustment to the Baseline and/or the Annual Project Benefits. If Contractor does not receive the notice within the time period specified above or travels to either City's location or the project site to determine the nature and scope of such changes, City agrees to pay Contractor, in addition to any other amounts due under this Attachment, 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 Contractor independently learns of any such change or condition, Contractor shall calculate and send to City 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 City fail to promptly provide Contractor with notice of any such change or condition, Contractor 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 three percent (3%).

Baseline period for this Attachment will be September 2010 to August 2011 for all buildings.

**Table IV-1: Facility Electric and Natural Gas Accounts**

Facility Name	Address	Electric Meter	Natural Gas Meter
Customs and Maintenance	8025 BOEING DR	002437062	0206368213
Warehouse	8043 BOEING DR	104888952	0800714145
Terminal Building	6701 CONVAIR RD Main Terminal	104862193	1209644878
Terminal Building	6701 CONVAIR RD Baggage claim area	058313035	0209707003
ARFF	101 GEORGE PERRY BLV	078782022	0206342885
New Vault	101 GEORGE PERRY BLV	084802769	N/A
Cargo 4	501 GEORGE PERRY BLV Suite 1	082815692	993D698943
Cargo 4	501 GEORGE PERRY BLV House Load	004975720	N/A
Sterilizer	6701 CONVAIR RD	104749848	N/A
Old Vault	1900 HAWKINS BLV	105021999	N/A
Butterfield Golf Course	1801 COTTONWOODS Clubhouse/pumphouse	104861675	N/A
Butterfield Golf Course	1801 COTTONWOODS Maintenance	1048572283	N/A
Long Term Parking	6900 NORTHRUP RD	032926374	N/A
Employee Parking	6795 CONVAIR RD	104777781	N/A

#### Electric Utility Rate Schedule Analysis

For all electric accounts, a utility bill audit was performed on City of El Paso electric bills for the period of SEP10-AUG11.

Each of the facilities surveyed under this project are billed according to one of the following three rates:

Rate 24 is the general service rate. It is available to all customers for lighting, power and heating service with a measured demand usage greater than 15 kW but less than 600 kW.

Rate 41 is the city and county service rate. It is limited to all public schools and to those municipal and county customers currently taking service under this schedule prior to the effective date of Rate Schedule 41 as authorized in Docket No. 9945 and have continued to take service without disconnection.

Accounts that are billed according to rates 24, and 41, use the actual metered usage to generate the billed amount.

**Rate Schedule 24****Summary of Billing Component Charges**

Type of Charge	Amount	Applicability
<b>Service Charge</b>	\$17.55	per meter
<b>Energy Cost (Summer)</b>		
Block 1	\$ 0.06755/ kWh	200 x Billed Demand
Block 2	\$0.04913/ kWh	150 x Billed Demand
Block 3	\$0.03573/ kWh	All remaining kWh
<b>Energy Cost (Winter)</b>		
Block 1	\$ 0.03324/ kWh	200 x Billed Demand
Block 2	\$0.02418/ kWh	150 x Billed Demand
Block 3	\$0.01758/ kWh	All remaining kWh
<b>Fixed Fuel Factor</b>	\$0.031154/ kWh	
<b>Energy Efficiency Cost Recovery Factor (EECRF)</b>	\$0.00219/ kWh	
<b>Military Base Discount Recovery Factor</b>	\$0.00936 x all charges	
<b>Demand Charge (Summer)</b>	\$11.91/kW	Monthly Maximum Demand
<b>Demand Charge (Winter)</b>	\$8.29/kW	Monthly Maximum Demand

**Rate Tariff – Rate Schedule 41****Summary of Billing Component Charges**

Type of Charge	Amount	Applicability
<b>Service Charge</b>	\$16.50	per meter
<b>Energy Cost (Summer)</b>		
Block 1	\$ 0.09484 / kWh	First 3,000 kWh
Block 2	\$0.02592/ kWh	All remaining kWh
<b>Energy Cost (Winter)</b>		
Block 1	\$0.07953/ kWh	First 3,000 kWh
Block 2	\$0.01061/ kWh	All remaining kWh
<b>Fixed Fuel Factor</b>	\$0.031154/ kWh	
<b>Energy Efficiency Cost Recovery Factor (EECRF)</b>	\$0.00206 / kWh	
<b>Military Base Discount Recovery Factor</b>	\$0.00377 x all charges	
<b>Demand Charge (Summer)</b>	\$17.67/kW	Monthly Maximum Demand
<b>Demand Charge (Winter)</b>	\$14.67/kW	Monthly Maximum Demand

The following Table IV-2 indicates electric charges (\$/kW & \$/kWh) which will be utilized for savings calculations at each facility.

Table IV-2: Facility Electric Charges

Facility Name	Rate Schedule	Annual Electric (kWh)	\$/kWh	Annual Electric (kW)	\$/kW	Annual Electric (\$)
Customs and Maintenance	24	360,360	\$0.06056	816	\$14.482	\$35,896
Warehouse	24	74,277	\$0.06842	226	\$14.482	\$8,325
Terminal Building	41	15,915,443	\$0.05196	27,003	\$16.231	\$1,128,659
ARFF	41	186,240	\$0.05196	468	\$16.231	\$15,218
New VAULT	24	524,040	\$0.07861	1,717	\$12.899	\$57,898
Cargo 4	24	260,088	\$0.06461	734	\$14.482	\$27,606
Sterilizer	24	33,510	\$0.08452	195	\$10.195	\$5,265
Old Vault	41	3,160	\$0.05196	19	\$16.231	\$568
Butterfield Golf Course	24	431,498	\$0.07833	2,621	\$11.434	\$71,663
Parking	41	43,078	\$0.05196	106	\$16.231	\$6,078

Detailed rate tariff calculations for each facility are included in Section IV of the Utility Assessment Report – ESPC, Phase V dated August 2012.

**Natural Gas Utility Rate Schedule Analysis**

For all natural gas accounts, a utility bill audit was performed on City of El Paso natural gas bills for the period of SEP06-AUG07.

The two rates utilized by the City of El Paso are Rate 20, which is the Commercial Service Rate and Rate 25, which is the Public Authority Service Rate.

**Rate Schedule 20****Summary of Billing Component Charges**

Customer Charge		\$19.30 per month
Delivery Charge		
1 <sup>st</sup> 100 ccf		No Charge
Next 400 ccf		\$0.1116/ccf
Next 2500 ccf		\$0.089/ccf
Over 3000 ccf		\$0.0841/ccf
Energy Charge	Monthly Variable	\$/ccf
Applicable Taxes		Tax Exempt

**Rate Schedule 25****Summary of Billing Component Charges**

Customer Charge		\$36.28 per month
Delivery Charge		
1 <sup>st</sup> 100 ccf		No Charge
Next 400 ccf		\$0.0809/ccf
Next 2500 ccf		\$0.1222/ccf
Over 3000 ccf		\$0.0841/ccf
Energy Charge	Monthly Variable	\$/ccf
Applicable Taxes		Tax Exempt

The following Table IV-3 indicates gas charges (\$/CCF) which will be utilized for savings calculations at each facility. Natural gas is billed based on two parts: a delivery charge, which is dependent on usage, and an energy charge which varies from month to month.

The \$/CCF unit cost for each facility was derived by dividing the base year annual delivery and energy charges by the annual CCF consumption. Customer charges were excluded from the unit cost.

**Table IV-3: Facility Natural Gas Charges**

Facility Name	Natural Gas (CCF)	Natural Gas (\$)	Natural Gas (\$/CCF)
Customs and Maintenance	8,895	\$5,808.80	\$0.56400
Warehouse	2,081	\$1,604.83	\$0.58093
Terminal Building	207,071	\$118,862.54	\$0.57019
ARFF	6,394	\$1,011.22	\$0.57068
Cargo 4	734	\$561.97	\$0.54105

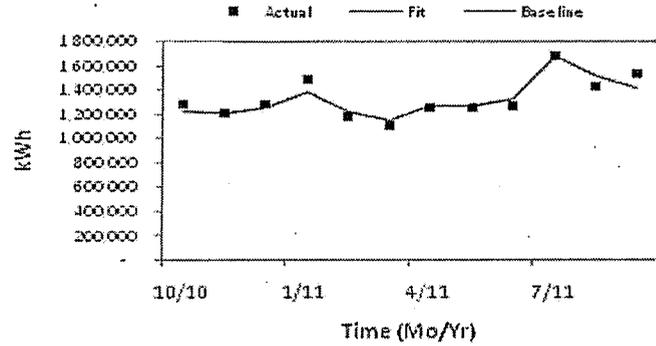
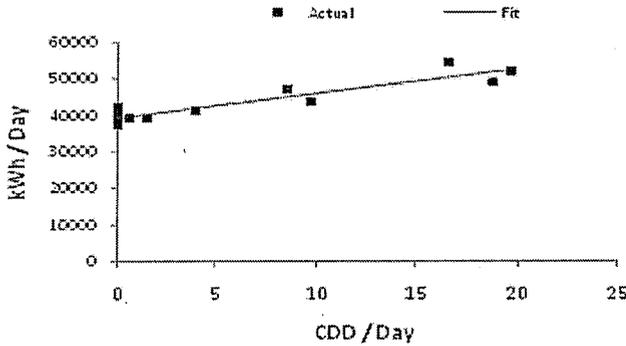
Detailed rate tariff calculations for each facility are included in Section IV of the Utility Assessment Report – ESPC Phase V dated August 2012.

Baseline Regression Analysis Calculations

Meter Tuning Contract

Project: EPIA  
 Area: Main Terminal  
 Account: Meter # 104862193

Site: Terminal Building  
 Meter: Main Electric  
 Unit: kWh(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
09/11/10	10/08/10	28	1,272,360	<input checked="" type="checkbox"/>	0.0	238.0	-	1,217,809	-4.3%
10/09/10	11/08/10	31	1,196,567	<input checked="" type="checkbox"/>	93.0	19.5	-	1,204,662	0.7%
11/09/10	12/08/10	30	1,281,021	<input checked="" type="checkbox"/>	505.0	0.0	-	1,246,014	-2.7%
12/09/10	01/10/11	33	1,482,553	<input checked="" type="checkbox"/>	609.0	0.0	-	1,382,596	-6.7%
01/11/11	02/07/11	28	1,165,091	<input checked="" type="checkbox"/>	722.0	0.0	-	1,219,079	4.6%
02/08/11	03/07/11	28	1,097,124	<input checked="" type="checkbox"/>	390.0	1.0	-	1,145,408	4.4%
03/08/11	04/08/11	32	1,241,294	<input checked="" type="checkbox"/>	86.5	47.0	1	1,259,506	1.5%
04/09/11	05/09/11	31	1,247,696	<input checked="" type="checkbox"/>	49.5	121.5	-	1,263,667	1.3%
05/10/11	06/08/11	30	1,266,128	<input checked="" type="checkbox"/>	0.5	292.5	-	1,330,182	5.1%
06/09/11	07/11/11	33	1,675,671	<input checked="" type="checkbox"/>	0.0	647.0	(1)	1,682,289	0.4%
07/12/11	08/10/11	30	1,422,441	<input checked="" type="checkbox"/>	0.0	562.0	-	1,511,708	6.3%
08/11/11	09/08/11	29	1,533,987	<input checked="" type="checkbox"/>	0.0	480.5	-	1,419,014	-7.5%
<b>Sum/Average/Max</b>		<b>363</b>	<b>15,881,933</b>		<b>2455.5</b>	<b>2409.0</b>	<b>-</b>	<b>15,881,934</b>	<b>0% +/- 4.9%</b>

**Main Electric (Account # Meter # 104862193 ): Tuning Period is 363 days from 9/11/2010 until 9/8/2011.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (kWh)} = 37764.32 \times \text{\#Days} + 223.93 \times \text{HDD} + 673.98 \times \text{CDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-4.9%. The underlying regression has a  $R^2=0.791$

Baseline Costs are calculated using Rate Tariff documented in separate attachment.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

HDD = Heating Degree-Days calculated for EL PASOTX for a 67.0 F° balance point.

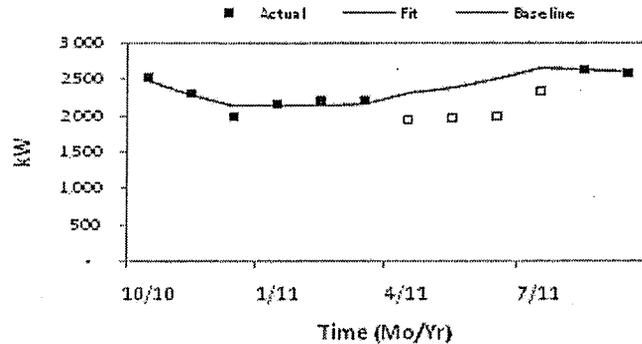
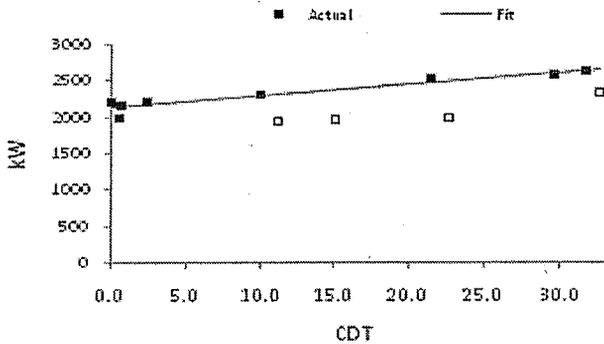
CDD = Cooling Degree-Days calculated for EL PASOTX for a 68.0 F° balance point.

Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.

Meter Tuning Contract

Project: EPIA  
 Area: Main Terminal  
 Account: Meter # 104862193

Site: Terminal Building  
 Meter: Main Electric  
 Unit: kW(Dmd OnPk)



From	To	# Days	Reading	Incl?	HDT	CDT	Offset	Baseline	Deviation
09/11/10	10/08/10	28	2,527	<input checked="" type="checkbox"/>	0.0	21.5	-	2,471	-2.2%
10/09/10	11/08/10	31	2,298	<input checked="" type="checkbox"/>	0.0	10.0	-	2,291	-0.3%
11/09/10	12/08/10	30	2,000	<input checked="" type="checkbox"/>	0.0	0.7	-	2,145	7.3%
12/09/10	01/10/11	33	2,158	<input checked="" type="checkbox"/>	0.0	0.7	-	2,146	-0.5%
01/11/11	02/07/11	28	2,213	<input checked="" type="checkbox"/>	0.0	0.1	-	2,136	-3.5%
02/08/11	03/07/11	28	2,209	<input checked="" type="checkbox"/>	0.0	2.4	-	2,173	-1.6%
03/08/11	04/08/11	32	1,941	<input type="checkbox"/>	0.0	11.1	-	2,309	19.0%
04/09/11	05/09/11	31	1,960	<input type="checkbox"/>	0.0	15.0	-	2,370	20.9%
05/10/11	06/08/11	30	1,994	<input type="checkbox"/>	0.0	22.7	-	2,490	24.9%
06/09/11	07/11/11	33	2,321	<input type="checkbox"/>	0.0	32.6	-	2,645	14.0%
07/12/11	08/10/11	30	2,620	<input checked="" type="checkbox"/>	0.0	31.7	-	2,632	0.4%
08/11/11	09/08/11	29	2,567	<input checked="" type="checkbox"/>	0.0	29.6	-	2,598	1.2%
<b>Sum/Average/Max</b>		<b>363</b>	<b>26,808</b>		<b>0.0</b>	<b>178.2</b>	<b>-</b>	<b>28,407</b>	<b>0% +/- 2.9%</b>

**Main Electric (Account # Meter # 104862193): Tuning Period is 363 days from 9/11/2010 until 9/8/2011.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (kW)} = 2134.86 + 15.65 \times \text{CDT}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-2.9%. The underlying regression has a  $R^2=0.906$

Baseline Costs are calculated using Rate Tariff documented in separate attachment.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

CDT = Cooling Delta T calculated for EL PASOTX for a 55.0 F° balance point.

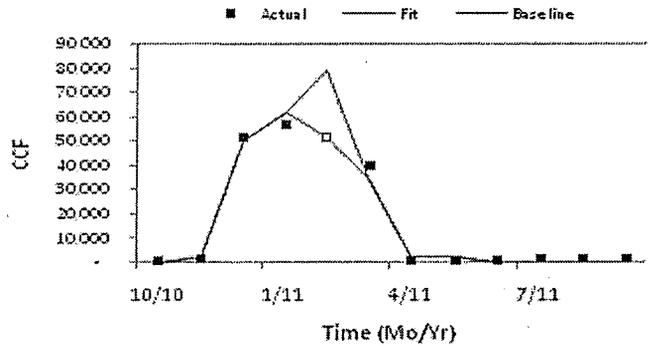
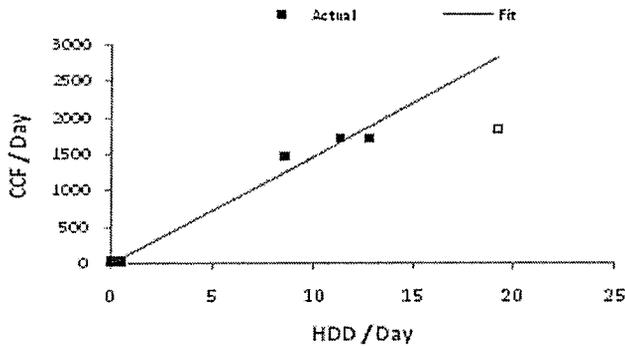
CDT was calculated using Maximum Temperatures.

Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.

Meter Tuning Contract

Project: EPIA  
 Area: Main Terminal  
 Account: 1209644878

Site: Terminal Building  
 Meter: Main Gas  
 Unit: CCF(Qty OnPk)



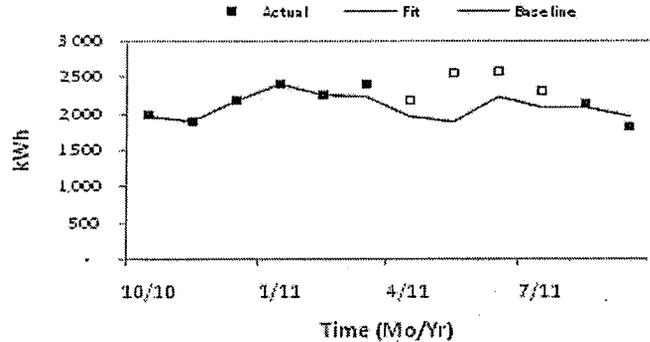
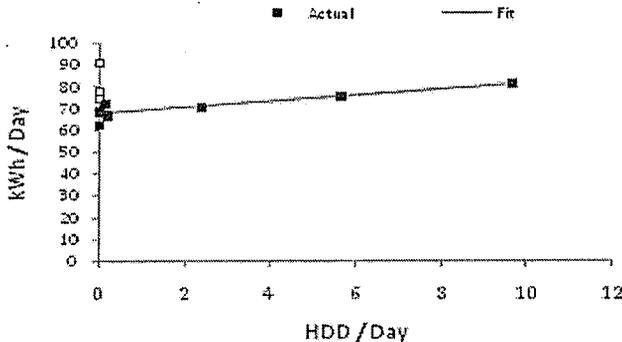
From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
09/14/10	10/07/10	24	477	<input checked="" type="checkbox"/>	0.0	0.0	-	115	-75.9%
10/08/10	11/09/10	33	1,267	<input checked="" type="checkbox"/>	16.5	0.0	-	2,572	103.0%
11/10/10	12/09/10	30	51,318	<input checked="" type="checkbox"/>	341.0	0.0	-	50,039	-2.5%
12/10/10	01/11/11	33	56,410	<input checked="" type="checkbox"/>	421.5	0.0	-	61,833	9.6%
01/12/11	02/08/11	28	51,473	<input type="checkbox"/>	539.0	0.0	(27,528)	51,473	0.0%
02/09/11	03/07/11	27	39,434	<input checked="" type="checkbox"/>	228.5	0.0	-	33,564	-14.9%
03/08/11	04/08/11	32	694	<input checked="" type="checkbox"/>	13.5	0.0	-	2,129	206.7%
04/09/11	05/10/11	32	578	<input checked="" type="checkbox"/>	16.0	0.0	-	2,494	331.6%
05/11/11	06/09/11	30	483	<input checked="" type="checkbox"/>	0.0	0.0	-	144	-70.3%
06/10/11	07/12/11	33	877	<input checked="" type="checkbox"/>	0.0	0.0	-	158	-82.0%
07/13/11	08/11/11	30	942	<input checked="" type="checkbox"/>	0.0	0.0	-	144	-84.8%
08/12/11	09/09/11	29	850	<input checked="" type="checkbox"/>	0.0	0.0	-	139	-83.7%
<b>Sum/Average/Max</b>		<b>361</b>	<b>204,803</b>		<b>1576.0</b>	<b>0.0</b>	<b>(27,528)</b>	<b>204,803</b>	<b>0% +/- 19.6%</b>

**Main Gas (Account # 1209644878): Tuning Period is 361 days from 9/14/2010 until 9/9/2011.**  
 Below is the equation used to calculate the Baseline values for the tuning period and all future periods:  
**Baseline (CCF) = 4.79 x #Days + 146.32 x HDD + Offset**  
 The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-19.6%. The underlying regression has a R<sup>2</sup>=0.985  
 Baseline Costs are calculated using Rate Tariff documented in separate attachment.  
**Explanations and Assumptions:**  
 (empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.  
 HDD = Heating Degree-Days calculated for EL PASOTX for a 61.0 F° balance point.  
 Multiplier and Offset are derived from Modification(s) in effect during the tuning period and are replicated annually for all future periods.

Meter Tuning Contract

Project: EPIA  
 Area: Baggage Claim Area  
 Account: Meter # 058313035

Site: Terminal Building  
 Meter: Baggage Claim Elec  
 Unit: kWh(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
09/24/10	10/22/10	29	1,991	<input checked="" type="checkbox"/>	0.0	0.0	-	1,966	-1.3%
10/23/10	11/19/10	28	1,874	<input checked="" type="checkbox"/>	4.5	0.0	-	1,904	1.6%
11/20/10	12/20/10	31	2,192	<input checked="" type="checkbox"/>	73.5	0.0	-	2,201	0.4%
12/21/10	01/21/11	32	2,409	<input checked="" type="checkbox"/>	180.0	0.0	-	2,413	0.2%
01/22/11	02/18/11	28	2,263	<input checked="" type="checkbox"/>	270.0	0.0	-	2,264	0.1%
02/19/11	03/23/11	33	2,396	<input checked="" type="checkbox"/>	4.0	0.0	-	2,243	-6.4%
03/24/11	04/21/11	29	2,183	<input type="checkbox"/>	0.0	0.0	-	1,966	-9.9%
04/22/11	05/19/11	28	2,545	<input type="checkbox"/>	0.0	0.0	-	1,898	-25.4%
05/20/11	06/21/11	33	2,573	<input type="checkbox"/>	0.0	0.0	-	2,237	-13.1%
06/22/11	07/22/11	31	2,308	<input type="checkbox"/>	0.0	0.0	-	2,101	-8.9%
07/23/11	08/22/11	31	2,122	<input checked="" type="checkbox"/>	0.0	0.0	-	2,101	-1.0%
08/23/11	09/20/11	29	1,812	<input checked="" type="checkbox"/>	0.0	0.0	-	1,966	8.5%
<b>Sum/Average/Max</b>		<b>362</b>	<b>26,668</b>		<b>532.0</b>	<b>0.0</b>	<b>-</b>	<b>25,262</b>	<b>0% +/- 3.9%</b>

**Baggage Claim Elec (Account # Meter # 058313035): Tuning Period is 362 days from 9/24/2010 until 9/20/2011.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (kWh)} = 67.79 \times \text{\#Days} + 1.36 \times \text{HDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-3.9%. The underlying regression has a  $R^2=0.761$

Baseline Costs are calculated using Rate Tariff documented in separate attachment.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

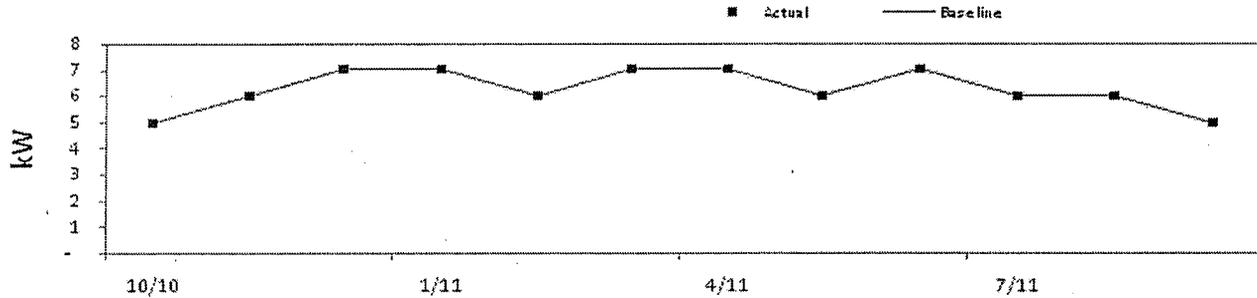
HDD = Heating Degree-Days calculated for EL PASOTX for a 50.0 F° balance point.

Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.

Meter Tuning Contract

Project: EPIA  
 Area: Baggage Claim Area  
 Account: Meter # 058313035

Site: Terminal Building  
 Meter: Baggage Claim Elec  
 Unit: kW(Dmd OnPk)



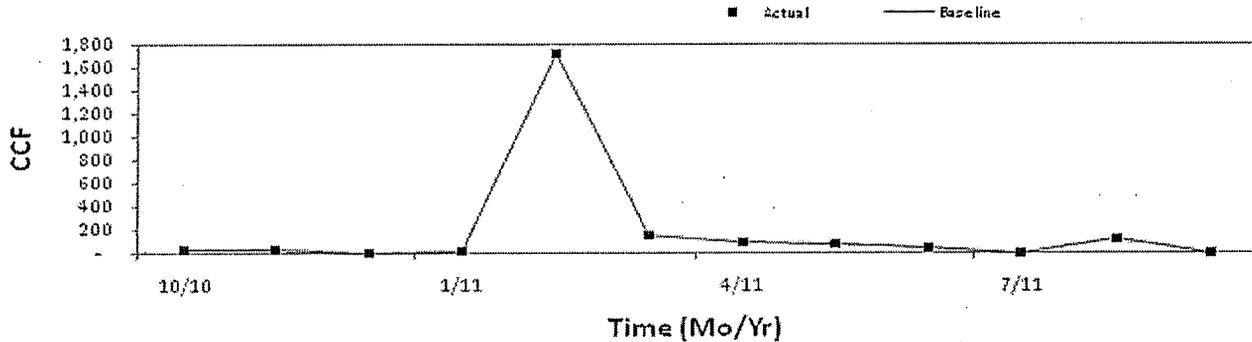
From	To	# Days	Reading	Incl?	HDT	CDT	Offset	Baseline	Deviation
09/24/10	10/22/10	29	5	<input checked="" type="checkbox"/>	0.0	0.0	5	5	0.0%
10/23/10	11/19/10	28	6	<input checked="" type="checkbox"/>	0.0	0.0	6	6	0.0%
11/20/10	12/20/10	31	7	<input checked="" type="checkbox"/>	0.0	0.0	7	7	0.0%
12/21/10	01/21/11	32	7	<input checked="" type="checkbox"/>	0.0	0.0	7	7	0.0%
01/22/11	02/18/11	28	6	<input checked="" type="checkbox"/>	0.0	0.0	6	6	0.0%
02/19/11	03/23/11	33	7	<input checked="" type="checkbox"/>	0.0	0.0	7	7	0.0%
03/24/11	04/21/11	29	7	<input checked="" type="checkbox"/>	0.0	0.0	7	7	0.0%
04/22/11	05/19/11	28	6	<input checked="" type="checkbox"/>	0.0	0.0	6	6	0.0%
05/20/11	06/21/11	33	7	<input checked="" type="checkbox"/>	0.0	0.0	7	7	0.0%
06/22/11	07/22/11	31	6	<input checked="" type="checkbox"/>	0.0	0.0	6	6	0.0%
07/23/11	08/22/11	31	6	<input checked="" type="checkbox"/>	0.0	0.0	6	6	0.0%
08/23/11	09/20/11	29	5	<input checked="" type="checkbox"/>	0.0	0.0	5	5	0.0%
<b>Sum/Average/Max</b>		<b>362</b>	<b>75</b>		<b>0.0</b>	<b>0.0</b>	<b>75</b>	<b>75</b>	<b>0.0%</b>

**Baggage Claim Elec (Account # Meter # 058313035): Tuning Period is 362 days from 9/24/2010 until 9/20/2011.**  
 Below is the equation used to calculate the Baseline values for the tuning period and all future periods:  
**Baseline (kW) = Offset**  
 The Baseline Equation has a Net Mean Bias of 0%. The underlying regression has a R<sup>2</sup>=0  
 Baseline Costs are calculated using Rate Tariff documented in separate attachment.  
**Explanations and Assumptions:**  
 (empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.  
 Multiplier and Offset are derived from Modification(s) in effect during the tuning period and are replicated annually for all future periods.

Meter Tuning Contract

Project: EPIA  
 Area: Baggage Claim Area  
 Account: 0209707003

Site: Terminal Building  
 Meter: Baggage Claim Gas  
 Unit: CCF(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
09/14/10	10/06/10	23	28	<input checked="" type="checkbox"/>	0.0	0.0	28	28	0.0%
10/07/10	11/08/10	33	35	<input checked="" type="checkbox"/>	0.0	0.0	35	35	0.0%
11/09/10	12/09/10	31	-	<input checked="" type="checkbox"/>	0.0	0.0	-	-	0.0%
12/10/10	01/10/11	32	16	<input checked="" type="checkbox"/>	0.0	0.0	16	16	0.0%
01/11/11	02/08/11	29	1,713	<input checked="" type="checkbox"/>	0.0	0.0	1,713	1,713	0.0%
02/09/11	03/07/11	27	146	<input checked="" type="checkbox"/>	0.0	0.0	146	146	0.0%
03/08/11	04/05/11	29	93	<input checked="" type="checkbox"/>	0.0	0.0	93	93	0.0%
04/06/11	05/06/11	31	69	<input checked="" type="checkbox"/>	0.0	0.0	69	69	0.0%
05/07/11	06/09/11	34	47	<input checked="" type="checkbox"/>	0.0	0.0	47	47	0.0%
06/10/11	07/08/11	29	-	<input checked="" type="checkbox"/>	0.0	0.0	-	-	0.0%
07/09/11	08/08/11	31	121	<input checked="" type="checkbox"/>	0.0	0.0	121	121	0.0%
08/09/11	09/09/11	32	-	<input checked="" type="checkbox"/>	0.0	0.0	-	-	0.0%
<b>Sum/Average/Max</b>		<b>361</b>	<b>2,268</b>		<b>0.0</b>	<b>0.0</b>	<b>2,268</b>	<b>2,268</b>	<b>0.0%</b>

**Baggage Claim Gas (Account # 0209707003 ): Tuning Period is 361 days from 9/14/2010 until 9/9/2011.**  
 Below is the equation used to calculate the Baseline values for the tuning period and all future periods:  
**Baseline (CCF) = Offset**  
 The Baseline Equation has a Net Mean Bias of 0%. The underlying regression has a R<sup>2</sup>=0  
 Baseline Costs are calculated using Rate Tariff documented in separate attachment.  
**Explanations and Assumptions:**  
 (empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.  
 Multiplier and Offset are derived from Modification(s) in effect during the tuning period and are replicated annually for all future periods.

## V. PRIMARY OPERATIONS SCHEDULE PRE &amp; POST RETROFIT

Table V-1: Facility Occupancy Hours

Building	Area	Weekday Hours	Saturday Hours	Sunday Hours	Weeks per Year	Annual Hours
Customs and Maintenance	Customs Offices	7:00 AM – 7:00 PM	10:00 AM – 6:00 PM	10:00 AM – 7:00 PM	51	3,927
	Maintenance Offices	7:00 AM – 7:00 PM	7:00 AM – 12:00 PM	7:00 AM – 12:00 PM	51	3,570
Warehouse	Offices	8:00 AM – 5:00 PM	closed	closed	51	2,295
	Warehouse	8:00 AM – 5:00 PM	closed	closed	51	2,295
Terminal Building	Offices	7:00 am - 5:30 pm	closed	closed	50	2,625
	Baggage Claim	5:30 am - midnight	5:30 am - midnight	5:30 am - midnight	52	7,118
	Rental cars	5:00 am - 1:00 am	5:00 am - 1:00 am	5:00 am - 1:00 am	52	7,300
	Terminal Waiting Areas	5:00 am - 1:00 am	5:00 am - 1:00 am	5:00 am - 1:00 am	52	7,300
ARFF	Dormitory	24 hours	24	24	52	8,760
	Training	8:00 am - 5:00 pm	closed	closed	40	1,800
	Truck Bay	7:30 am - 6:00 pm	7:30 AM – 6:00 PM	7:30 AM – 6:00 PM	52	3,832
New Vault	Vault	8:00 am - 5:00 pm	closed	closed	50	2,250
Cargo 4	Customs	7:00 am - 9:00 pm	7:00 AM – 1:00 PM	closed	52	3,952
Sterilizer	Sterilizer	2 days/wk, 8:30 am - 11:30 am	closed	closed	50	300
Old Vault	Vault	Closed	closed	closed	0	0
Butterfield Golf Course	Club house	Mon - Fri 6:00 am - 8:00 pm	6:00 AM - 8:00 PM	6:00 AM – 8:00 PM	51	4,998

Table V-2: Pre-Retrofit and Post-Retrofit Lighting Operating Hours

Building	Area	Pre-Retrofit Lighting Hours	Post-Retrofit Lighting Operating Hours
Main Terminal	Hall	208	208
	Mech	208	208
	computer	8,760	6,132
	Storage	312	218
	Soffits	4,380	4,380
	West Entrance	8,760	8,760
	Janitor	1,460	1,022
	Restrooms	8,760	6,132
	Baggage Claim	8,760	6,132
	Baggage Claim Office	3,000	2,100
	Office	1,750	1,225
	Baggage Handling	8,760	6,132
	Barrel ceiling	8,760	8,760
	ticketing	8,760	8,760
TSA	3,000	2,100	
Building Maint	Wood Shop	4,992	3,494
	Office	1,750	1,225
	Tool Room	4,992	3,494
	Storage	1,560	1,092
	breakroom	4,992	3,494
	Civil Air Patrol	1,750	1,225
	Restrooms	1,040	728
	Detention Cell	1,560	1,560
Vehicle & Field Maintenance	Exterior	4,380	4,380
	Auto Bay	2,600	2,600
	Lockers	4,160	4,160
	Parts & Tools	2,600	1,820
Warehouse	Restrooms	4,160	2,912
	Warehouse	2,600	1,820
	Entry	2,600	1,820
	Restrooms	520	364
Sweeper Dump/Sterilizer	Office	1,750	1,225
	Sterilizer	104	73
	Restrooms	104	73
New electrical	Bay	104	104
	Generator rm	1,040	1,040

Schedule Q-2

Building	Area	Pre-Retrofit Lighting Hours	Post-Retrofit Lighting Operating Hours
Vault	Main Rm	8,760	6,132
	Office	2,600	1,820
ARFF Station	Equipment Bays	7,300	7,300
	Bunk	1,460	1,460
	Restrooms	520	520
	Office	2,600	1,820
	Day Room	2,600	1,820
	Kitchen	2,190	1,533
	Conference Rm	2,080	1,456
	Locker Rm	2,600	1,820
	Storage	1,040	728
Training rm	2,600	1,820	
Customs/Cargo 4 FTZ	Customs	3,600	2,520
	Office	1,750	1,225
	Restrooms	1,040	728
	Conference Rm	520	364
	Breakroom	4,380	3,066
	Holding	208	208
	Back hall	8,760	8,760
Warehouse	208	146	
Butterfield Trail Golf Course	hall	5,600	5,600
	Office	1,750	1,225
	closet	1,040	728
	Restrooms	2,040	2,040
	Pro Shop	5,600	3,920
	Dining Rm	5,600	5,600
	Patio	5,600	5,600
	Kitchen	5,600	3,920
	Bays	5,600	3,920
Work Rm	5,600	3,920	
Parking Lots	Exterior	4,380	4,380

**Table V-3: Pre-Retrofit Main Terminal HVAC Equipment Operating Hours**

Equipment	Location	Annual Operating Hours
Air Handling Units	Entire Facility	8,760
Roof Top Air Handling Units	Entire Facility	8,760
Roof Top Packaged DX Units	Entire Facility	8,760
Chiller 1	Central Plant	8,760
Chiller 2	Central Plant	7,398
Chiller 3	Central Plant	2,760
Boiler 1	Central Plant	4,380
Boiler 2	Central Plant	4,380
Secondary Chilled Water Pump 1	Central Plant	8,760
Secondary Chilled Water Pump 2	Central Plant	4,380
Secondary Hot Water Pump 1	Central Plant	8,760
Secondary Hot Water Pump 2	Central Plant	4,380
HX water pump	Central Plant	350
Primary Chilled Water Pump 1	Central Plant	8,760
Primary Chilled Water Pump 2	Central Plant	7,398
Primary Chilled Water Pump 3	Central Plant	2,760
Primary Hot Water Pump 1	Central Plant	8,760
Primary Hot Water Pump 2	Central Plant	8,760

**Table V-4: BIN Weather Data**

The following El Paso BIN Weather Data was used for all energy calculations in this report.

OAT BIN TEMP (°F)	BIN HOURS
102	19
97	171
92	409
87	555
82	689
77	917
72	915
67	831
62	750
57	791
52	696
47	655
42	515
37	428
32	238
27	132
22	42
17	7
	<b>8,760</b>

**Table V-5: Pre-Retrofit and Post-Retrofit EFLH**

Based on SECO Tables 15 and 16, the following pre and post retrofit Equivalent Full Load Hours (EFLHs) were used for nighttime equipment shut down calculations.

Pre-Retrofit		Post-Retrofit	
Cooling Equivalent Full Load Hours	Heating Equivalent Full Load Hours	Cooling Equivalent Full Load Hours	Heating Equivalent Full Load Hours
3,124	407	2,964	320

**Table V-6: Post-Retrofit HVAC Indoor Temperature Setpoints**

Post-retrofit HVAC equipment operating hours and EFLHs are based upon occupancy schedules shown in Table V-1 of this Agreement. HVAC controls will automatically provide cool down/warm up HVAC start times so that the conditioned areas will meet the indoor temperature setpoints shown in the following table during the occupied periods.

HVAC controls will be setup to maintain the following occupied and unoccupied indoor conditioned space temperatures:

Cooling Mode Occupied Period	Cooling Mode Unoccupied Period	Heating Mode Occupied Period	Heating Mode Unoccupied Period
73 to 75-Deg.F	85-Deg.F Minimum	68 to 70-Deg.F	50-Deg.F Maximum

**VI. MEASUREMENT & VERIFICATION SERVICES**

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

**Measurement & Verification (M&V) Services**

***Performance Reporting Services***

1. Provide quarterly savings reports for years 1 through 10. Reporting shall include the following:
  - Energy savings calculations for period compared to targets.
  - Status of energy and operational savings strategies implemented by Contractor.

***Performance Assurance Services***

1. Remote monitoring of facility management system
  - Review of status and operation of energy and operational savings measures implemented by Contractor. Implement corrective actions as needed.
  - Review Run Time Totalization for period on selected equipment.
  - Review Trending of selected equipment for period.
  - Site visit to review facility management system and consultation with City's Energy Manager.
  - Report any operational or retrofit opportunities that would increase energy savings.
2. Training

- City consultation.
- Telephone support as required.

## CITY RESPONSIBILITIES

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

1. Providing Contractor, 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;
2. 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;
3. Providing timely reviews and approvals of design submissions, proposed change orders, and other project documents;
4. Providing the following information with respect to the project and project site following Contractor's request:
  - a. surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;
  - b. geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the project site;
  - c. 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 Contractor to perform the Work;
  - d. a legal description of the project site;
  - e. as-built and record drawings of any existing structures at the project site; and
  - f. environmental studies, reports and impact statement describing the environmental conditions, including hazardous conditions or materials, in existence at the project site.
5. Securing and executing all necessary agreements with adjacent land or property City's that are necessary to enable Contractor to perform the Work;
6. Providing assistance to Contractor in obtaining any permits, approvals, and licenses that are Contractor's responsibility to obtain as set forth in Schedule Q-1;
7. Obtaining any permits, approvals, and licenses that are necessary for the performance of the Work and are not Contractor's responsibility to obtain as set forth in Schedule Q-1;
8. 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;
9. Providing the utility bills, reports, and similar information reasonably necessary for administering Contractor's obligations under the Assured Performance Guarantee within five (5) days of City receipt and/or generation or Contractor's request therefor;
10. Providing all records relating to energy and/or water usage and related maintenance of the premises and relevant equipment requested by Contractor;

### Schedule Q-3

11. Providing and installing utility sub-meters on all new construction and/or additions built during the Guarantee Term as recommended by Contractor or, alternatively, paying Contractor's applicable fees for calculating necessary adjustments to the Assured Performance Guarantee as a result of the new construction;
12. Providing and maintaining a dedicated telephone line and/or TCP/IP remote connection to facilitate remote monitoring of relevant equipment;
13. Promptly notifying Contractor of any change in use or condition described in Section III of Q-2 or any other matter that may impact the Assured Performance Guarantee;
14. Taking all actions reasonably necessary to achieve the Non-Measured Project Benefits;

**PRICE AND PAYMENT TERMS**

City shall make payments to Contractor pursuant to this Schedule Q-4.

1. Work. The price to be paid by City for the Work shall be a lump sum in the amount of \$4,991,967. Payment for all work authorized by the City's representative shall be made no more than once a month during the implementation term. Payment shall be due and payable each month following issuance of the City's Notice to Proceed. The City shall make payments upon presentation of the Contractor's detailed Invoice and accompanying Summary and Progress Report and the City's written approval. Each invoice shall contain a brief summary indicating, at a minimum, the total Project budget, the total amount authorized for the Contractor, the current invoiced amount and the amount billed to date.

The City agrees to pay invoices for all services performed as soon as reasonably possible, but not later than thirty (30) days from the date of receipt. The total amount paid to Contractor shall not exceed amount set forth herein, except by written amendment to this Agreement, executed by both parties.

The following is an estimated draw schedule for this Agreement:

Payment	Amount
1	\$ 206,655
2	\$ 344,079
3	\$ 657,444
4	\$ 1,326,688
5	\$ 952,758
6	\$ 457,690
7	\$ 380,490
8	\$ 357,685
9	\$ 91,599
10	\$ 84,690
11	\$ 82,690
12	\$ 49,499
<b>Total</b>	<b>\$ 4,991,967</b>

2. M&V Services. The total price for Contractor's M&V Services, as detailed on Schedule Q-2 of this Attachment, is a lump sum of \$452,823. This amount will be paid to Contractor in quarterly installments. These payments will be due and payable when City receives Contractor's invoice. Contractor and shall be made throughout the Guarantee Term. Contractor will bill City for services rendered. The City agrees to pay invoices for all services performed as soon as reasonably possible, but not later than thirty (30) days from the date of receipt. The total amount paid to Contractor shall not exceed amount set forth herein, except by written amendment to this Agreement, executed by both parties.

Year	Assured Performance Guarantee Services
1	\$ 39,500
2	\$ 40,685
3	\$ 41,906
4	\$ 43,163
5	\$ 44,458
6	\$ 45,791
7	\$ 47,165
8	\$ 48,580
9	\$ 50,037
10	\$ 51,539
<b>Totals</b>	<b>\$ 452,823</b>

3. Preventative Maintenance Services Agreement. See Schedule Q-8 (Preventative Maintenance Services Agreement).

**NOTICE TO PROCEED**

Johnson Controls, Inc.  
3021 W Bend Dr  
Irving, TX 75063  
ATTN: Michael Crowe

Re: Notice to Proceed for Energy Operational Savings Program Performance Contract (Amendment #5)

Dear Michael:

This Notice to Proceed is being issued by City of El Paso ("City") to Johnson Controls, Inc. ("Contractor") pursuant to that certain Performance Contract entered into between City and Contractor for the purpose of notifying Contractor to commence work under such contract.

Contractor and City agree that the City shall not issue the Notice to Proceed unless and until the execution of the Performance Contract by City and Contractor, the delivery of Performance and Payment Bonds

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.

**CITY OF EL PASO**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**ACKNOWLEDGED & AGREED TO:**

**JOHNSON CONTROLS, INC.**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**CHANGE ORDER**

Performance Contract dated _____, 20____ between Johnson Controls, Inc. and City. Contract No. _____	Change Order No. _____		Date (mo/day/yr) _____
City City of El Paso	Dept. ID# _____		Fund: Account: _____
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:			
Original Contract Sum .....		\$	
Total amount of this Change Order .....		\$	
Contract Sum prior to this Change Order .....		\$	
Total amount of this Change Order .....		\$	
New Contract Sum, including this Change Order .....		\$	
Total net value of Change Orders to Date .....		\$	
Total Performance Contract amount as revised by this Change Order .....		\$	
The time for completion is: <input type="checkbox"/> increased, <input type="checkbox"/> decreased, <input type="checkbox"/> unchanged.		(mo, day, yr) _____	
The new completion date resulting from this Change Order is:			
[check if applicable] Assured Performance Guarantee changed as follows:			

**Schedule Q-6**

Unless specifically changed by this Change Order, all terms, conditions and provisions of the above referenced Performance Contract remain unchanged and in full effect.

<b>JOHNSON CONTROLS, INC.</b>	<b>CITY</b>
Signature:	Signature:
Printed Name:	Printed Name:
Title:	Title:
	<b>Approved as to Legal Form:</b>
	<b>Signature</b>
	<b>Printed Name:</b>
	<b>Assistant City Attorney</b>

**CERTIFICATE OF SUBSTANTIAL COMPLETION**

**PARTIES:** JOHNSON CONTROLS, INC. ("Contractor")  
3021 West Bend Dr  
Irving, TX 75063

CITY OF EL PASO ("City")  
Two Civic Center Plaza  
El Paso, TX 79901-1196

**PROJECT:** Energy Operational Savings Program; Performance Contract dated \_\_\_\_\_, 20\_\_  
between Contractor and City

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

- a. The work set forth in the Performance Contract is substantially complete.
- b. City has received the manuals, warranty information, and training required under the Performance Contract.
- c. The following punch list items must be completed by Contractor (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, Contractor and City shall sign the Certificate of Final Completion attached hereto.

Dated \_\_\_\_\_, 20\_\_

**CITY:** JOHNSON CONTROLS, INC.

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

**CERTIFICATE OF FINAL COMPLETION**

**PARTIES:** JOHNSON CONTROLS, INC. ("Contractor")  
3021 West Bend Dr  
Irving, TX 75063

CITY OF EL PASO ("City")  
Two Civic Center Plaza  
El Paso, TX 79901-1196

**PROJECT:** Energy Operational Savings Program; Performance Contract dated \_\_\_\_\_, 20\_\_  
between Contractor and City

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

- a. The work set forth in the Performance Contract has been reviewed and determined by City to be fully complete.
- b. City accepts the work as complete and hereby releases Contractor's obligations under any performance and payment bonds posted for the project as of the date set forth below.

Dated \_\_\_\_\_, 20\_\_

**CITY:**

**JOHNSON CONTROLS, INC.**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

**PREVENTATIVE MAINTENANCE SERVICES AGREEMENT**



Factory Direct Service



**Service Agreement**

City of El Paso ("Customer")  
 2 Civic Center Plaza  
 El Paso, TX 79901

Proposal Date August 20, 2012  
 Agreement # ESPC Phase V Project  
 Agreement Rev

**Scope of Service**

Johnson Controls, Inc. ("JCI") and the Customer (collectively the "Parties") agree Preventative Maintenance Services, as defined in Schedule A ("Services"), will be provided by JCI at the Customer's facility. This Service Agreement, the Equipment List, Supplemental Price and Payment Terms, Terms and Conditions, and Schedules attached hereto and incorporated by this reference as if set forth fully herein (collectively the "Agreement"), cover the rights and obligations of both the Customer and JCI.

**Extended Service Options for Premium Coverage**

If Premium Coverage is selected, on-site repair services to the equipment will be provided as specified in this Agreement for the equipment listed in the attached Equipment List.

**Equipment List**

Only the equipment listed in the Equipment List will be covered as part of this Agreement. Any changes to the Equipment List must be agreed upon in writing by both Parties.

**Term/Automatic Renewal**

This Agreement takes effect on 10/01/2012 and will continue until 09/30/2022 ("Original Term"). The Agreement will automatically renew on a year-to-year basis after the Original Term ends unless the Customer or JCI gives the other written notice it does not want to renew. The notice must be delivered at least forty-five (45) days prior to the end of the Original Term or of any renewal period. The Original Term and any renewal periods are sometimes collectively referred to in this Agreement as the "Term". Renewal price adjustments are discussed in the Terms and Conditions.

**Refrigerant Charges**

Refrigerant is not included under this Agreement and will be billed separately to the Customer by JCI.

**Price and Payment Terms**

The total Contract Price for JCI's Services during the 1<sup>st</sup> year of the Original Term is \$17,900. This amount will be paid to JCI in Other Installments. Pricing for each subsequent year of a multiyear original term is set forth in the Supplemental Price and Payment Terms. These payments will be due and payable within thirty (30) days of the invoice date and such timely payment by Customer shall be a condition precedent to JCI's obligation to perform its Services. A penalty of one and a half percent (1.5%) of the amount due per month shall accrue for payments received after the payment due date. Renewal price adjustments are set forth in the Terms and Conditions.

JCI Branch El Paso Service Branch -0816 Branch Phone 915-629-6090  
 Address 1320 Goodyear Drive, 2<sup>nd</sup> Floor  
 City, State, Zip El Paso, TX 79936

Schedule A**Equipment List (Selected Equipment to be Serviced)****Covered Equipment at Site:** El Paso International Airport – Central Plant Equipment

Equipment	Equip. Qty	PM Services / Year
Air-cooled chillers	3	2
Primary chilled water pumps	3	1
Secondary chilled water pumps with VFD units	2	1
Gas-fired boilers	4	1
Primary heating water pumps with VFD units	4	1
Secondary heating water pumps with VFD units	2	1
Cooling tower	1	1
Condenser water pump	1	1
Plate & frame heat exchanger	1	1
Plate & frame heat exchanger pump	1	1

PM services for Central Plant equipment is shown in the following task schedules.

<b>Chiller, Air Cooled, Screw, 251-400 Tons</b>	
<b>Operational</b>	
	Check for proper condenser fan operation
	Record and log all operating parameters
	Check with appropriate customer representative for operational deficiencies
	Check system pressures and temperatures
	Check refrigerant charge (sight glass)
	Check for visual signs of refrigerant/oil leak(s)
	Check for unusual noise and vibration
	All work must be performed in accordance with Johnson Controls safety policies
	Check overall condition of unit
	Review control panel for proper operation and recorded fault histories
	Check for proper capacity control operation
	Check for proper oil temperature and pressure
	Check for proper chilled water flow
	Check oil separator level
	Document tasks performed during visit and report any observations to appropriate customer representative
<b>Comprehensives</b>	
	Conduct refrigerant leak check
	Remove and dispose any debris from any maintenance activity
	Check with appropriate customer representative for operational deficiencies
	Review control panel for proper operation and recorded fault histories
	Perform lock-out and tag-out procedure
	All work must be performed in accordance with Johnson Controls safety policies
	Verify oil heater operation
	Inspect condenser fan and compressor contactors for wear
	Perform preventative procedures to flow proving devices
	Check oil separator level
	Document tasks performed during visit and report any observations to appropriate customer representative
	Check overall condition of unit
	Check for visual signs of refrigerant/oil leak(s)
	Check and tighten electrical connections
	Check for unusual noise and vibration
<b>Condenser Coil Cleaning (with louvers)</b>	
	Document tasks performed during visit and report any observations to appropriate customer representative
	Remove and dispose any debris from any maintenance activity
	Check with appropriate customer representative for operational deficiencies
	Spray coil(s) with chemical solution
	All work must be performed in accordance with Johnson Controls safety policies
	Rinse coil(s) thoroughly with water

<b><i>Oil Analysis (3 Circuits)</i></b>	
	Label and complete paperwork indicating present operating conditions
	All work must be performed in accordance with Johnson Controls safety policies
	Check with appropriate customer representative for operational deficiencies
	Drop off for analysis
	Remove sample in approved container
	Document tasks performed during visit and report any observations to appropriate customer representative

<b>Boiler, Gas-Fired, Fire Tube, 301-600 HP</b>	
<b>Comprehensives</b>	
	Clean combustion fan wheel
	Check burner for proper sequence of operation
	Check operating controls
	Check with appropriate customer representative for operational deficiencies
	Check factory supplied gas piping and components for leakage
	Verify proper operation of low water cut-out control
	Visually inspect combustion chamber, draft diverter and flue for accumulation of soot - clean as needed
	Lift relief valve to ensure proper operation
	Check combustion blower motor operation and lubricate as needed
	Remove and dispose any debris from any maintenance activity
	All work must be performed in accordance with Johnson Controls safety policies
	Inspect burner contactors for wear
	Check and tighten electrical connections
	Check for proper gas supply pressure
	Check overall condition of unit
	Record and log all operating parameters (including pressures and temperatures)
	Fill boiler and check for proper operation of make-up water valve
	Check and clean pilot assembly
	Document tasks performed during visit and report any observations to appropriate customer representative
	Disassemble and clean low water cut-out
	Check boiler relief valves for leakage
	Drain boiler, open hand hole covers and clean as needed (if applicable)
<b>Combustion Analysis</b>	
	All work must be performed in accordance with Johnson Controls safety policies
	Check with appropriate customer representative for operational deficiencies
	Perform combustion analysis procedures
	Document tasks performed during visit and report any observations to appropriate customer representative
<b>Tube Brushing (Fire Tube - Gaskets not included)</b>	
	All work must be performed in accordance with Johnson Controls safety policies
	Check with appropriate customer representative for operational deficiencies
	Remove and dispose any debris from any maintenance activity
	Open boiler doors
	Mechanically brush tubes
	Close boiler doors
	Document tasks performed during visit and report any observations to appropriate customer representative

<b>Cooling Tower, Spray Distribution, &lt;300 Tons</b>	
<b>Comprehensives</b>	
	Check belt(s) (if applicable)
	Check and tighten electrical connections
	Check overall condition of unit
	All work must be performed in accordance with Johnson Controls safety policies
	Check for unusual noise and vibration
	Check for spray nozzle blockage
	Remove and dispose any debris from any maintenance activity
	Check with appropriate customer representative for operational deficiencies
	Check operation of bypass valve (if applicable)
	Check condition of tower fill
	Check tower sump screens
	Document tasks performed during visit and report any observations to appropriate customer representative
	Check condition of sump and basin
	Disassemble and clean sump level sensor (if applicable)
	Check for proper condenser water temperature control (if applicable)
	Check fan mechanical drive system and lubricate per manufacturer's recommendation
	Check operation of basin heater (if applicable)
	Check for proper operation of make up water controller and adjust as needed
<b>Tower Cleaning</b>	
	Remove and dispose any debris from any maintenance activity
	Clean basin
	Fill tower and basin
	Document tasks performed during visit and report any observations to appropriate customer representative
	Check with appropriate customer representative for operational deficiencies
	Remove soot and debris
	All work must be performed in accordance with Johnson Controls safety policies
	Drain tower and basin

<b>Pump, Variable Frequency Drive (VFD), &lt;15 HP</b>	
<b>Comprehensives</b>	
	Check with appropriate customer representative for operational deficiencies
	All work must be performed in accordance with Johnson Controls safety policies
	Check and tighten electrical connections
	Ramp drive up and down, and check for proper operation (if possible)
	Check for unusual noise or vibration
	Remove and dispose any debris from any maintenance activity
	Check for heat damage
	Document tasks performed during visit and report any observations to appropriate customer representative
	Review event log (if applicable)
	Verify proper operation of cooling fans and clean as needed
	Check condition of air filter and clean or replace as needed
	Check overall condition of unit

<b>Pump, Variable Frequency Drive (VFD), 40-60 HP</b>	
<b>Comprehensives</b>	
	Verify proper operation of cooling fans and clean as needed
	Check for unusual noise or vibration
	Review event log (if applicable)
	Check with appropriate customer representative for operational deficiencies
	Check and tighten electrical connections
	All work must be performed in accordance with Johnson Controls safety policies
	Document tasks performed during visit and report any observations to appropriate customer representative
	Check for heat damage
	Ramp drive up and down, and check for proper operation (if possible)
	Remove and dispose any debris from any maintenance activity
	Check condition of air filter and clean or replace as needed
	Check overall condition of unit

<b>Pump, Circulating, 11-50 HP</b>	
<b>Comprehensives</b>	
	All work must be performed in accordance with Johnson Controls safety policies
	Check with appropriate customer representative for operational deficiencies
	Lubricate pump and motor bearing(s) per manufacturer's recommendation
	Check for leaks
	Record and log all operating parameters
	Check overall condition of unit
	Check coupling
	Document tasks performed during visit and report any observations to appropriate customer representative
	Check for unusual noise and vibration

<b>Pump, Chilled Water, 0-10 HP</b>	
<b>Comprehensives</b>	
	Check overall condition of unit
	All work must be performed in accordance with Johnson Controls safety policies
	Record and log all operating parameters
	Check coupling
	Check for unusual noise and vibration
	Document tasks performed during visit and report any observations to appropriate customer representative
	Check with appropriate customer representative for operational deficiencies
	Check for leaks
	Lubricate pump and motor bearing(s) per manufacturer's recommendation

<b>Heat Exchanger-All</b>	
<b>Comprehensives</b>	
	Confirm system flow
	Complete any required maintenance checklists, report observations to appropriate customer representative
	Inspect structural elements and mounting points for vibration, corrosion, damage and secureness (Document any problems and corrections)
	Check with appropriate customer representative for operational deficiencies
	Check operating and safety controls, adjust as needed
	Check for fouling
	Inspect for system leaks
	Clean area around equipment

**Schedule A (continued)**

Supplemental Price and Payment Terms (Applies to Multi-Year Contracts Only)

Year	Preventative Maintenance Services
1	\$ 17,900
2	\$ 18,437
3	\$ 18,990
4	\$ 19,560
5	\$ 20,147
6	\$ 20,751
7	\$ 21,374
8	\$ 22,015
9	\$ 22,675
10	\$ 23,355
<b>Totals</b>	<b>\$ 205,203</b>

**Special Additions and Exceptions**

## Terms and Conditions

### DEFINITIONS

**COVERED EQUIPMENT** is the equipment for which Services are to be provided under this Agreement as set forth in the attached Equipment List.

**EQUIPMENT FAILURE** means the sudden and accidental failure of moving parts or electric or electronic components that are part of the Covered Equipment and are necessary for its operation.

**SCHEDULED SERVICE VISITS** are the on-site labor visits required to perform JCI recommended inspections and preventive maintenance on Covered Equipment.

**SCHEDULED SERVICE MATERIALS** are the materials required to perform Scheduled Service Visits on Covered Equipment, such as grease, lubricants and sprays, depending on the Covered Equipment.

**REPAIR LABOR** is the labor necessary to restore Covered Equipment to working condition following an Equipment Failure, but does not include services relating to total equipment replacement due to obsolescence or unavailability of parts.

**REPAIR MATERIALS** are the parts necessary to restore Covered Equipment to working condition following an Equipment Failure, but excludes total equipment replacement due to obsolescence or unavailability of parts. At JCI's option, Repair Materials may be new, used, or reconditioned.

### SERVICE COVERAGE OPTIONS

**BASIC COVERAGE** means Scheduled Service Visits, plus Scheduled Service Materials if elsewhere noted in this Agreement, for Covered Equipment. No parts or equipment are provided for under BASIC COVERAGE.

**PREMIUM COVERAGE** means BASIC COVERAGE as well as Repair Labor, plus Repair Material if elsewhere noted in this Agreement for Covered Equipment.

**EXTENDED SERVICE** means service for repairs performed outside JCI's normal business hours (available either 24/5 or 24/7) and is available only if Customer has PREMIUM COVERAGE, as more fully described in Schedule A. The price for Extended Service, if chosen by Customer, is part of the total Contract Price.

If Services are performed, or materials, parts or equipment provided, beyond the scope or time period of those covered by the Service Coverage option selected by Customer, Customer agrees to pay JCI's standard fee for all additional Services, materials, parts and equipment.

#### A. INITIAL EQUIPMENT INSPECTION NECESSARY FOR PREMIUM COVERAGE

If Customer has ordered PREMIUM COVERAGE, JCI will inspect the Covered Equipment within 45 days of the date of this Agreement or as seasonal or operational conditions permit. JCI will advise Customer if JCI finds any Covered Equipment not in working order or in need of repair. With the Customer's approval, JCI will perform the work necessary to put the Covered Equipment in proper working condition. This work will be done at JCI's standard fee for parts and labor in effect at that time. If the Customer does not want JCI to do the work identified by JCI, or if Customer does not have the work done, the equipment will be removed from the list of Covered Equipment and the price of this Agreement will be adjusted accordingly. This inspection does not affect Customer's warranty. Should Customer not make recommended repairs, JCI reserves the right to invoice Customer for the cost of the inspection.

#### B. STANDARD OF CARE AND WARRANTIES

Customer understands JCI is a provider of services under this Agreement and shall not be considered a merchant or a vendor of goods. JCI warrants its Services will be provided in a good and workmanlike manner. Any Services not performed in a good and workmanlike manner will be re-performed by JCI provided Customer notifies JCI as soon as possible, which shall be no later than one calendar year from the date the Services were performed. Customer acknowledges that re-performance, as provided herein, shall be its exclusive and only remedy with regards to any Services provided by JCI.

If a part is installed as part of JCI's Services, JCI warrants the installed part will be free from defects in workmanship and material until the end of the Term or for one (1) year from the date on which JCI installs the part, whichever is earlier. If the part is covered under a manufacturer's warranty for a term less than one (1) year, JCI's warranty to the Customer as to such part shall be limited to the term of the manufacturer's warranty. In order to assert a warranty claim, Customer must provide prompt written notice to JCI of its claim during the applicable warranty period. Any claim based upon this warranty must be brought within one (1) year of the expiration of the applicable warranty period. This limitation is in lieu of any other applicable statute of limitation. JCI's sole obligation under this warranty shall be to repair or replace the defective part without charge to Customer during such warranty period. **If JCI installs or furnishes equipment under this Agreement, and the equipment is covered by a warranty from the manufacturer, JCI will, to the extent transferable, transfer the benefits of such manufacturer's warranty to Customer. EXCEPT AS SPECIFICALLY PROVIDED HEREIN, ALL OTHER EQUIPMENT, MATERIALS, PARTS AND OTHER ITEMS PROVIDED BY JCI ARE PROVIDED ON AN "AS IS" BASIS WITHOUT WARRANTIES OF ANY KIND.**

**CUSTOMER HEREBY ACKNOWLEDGES AND AGREES THAT THESE WARRANTIES ARE THE SOLE WARRANTIES AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTABILITY, NON-INFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE. CUSTOMER FURTHER ACKNOWLEDGES THAT NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY JCI, ITS AGENTS OR EMPLOYEES, SHALL CREATE A WARRANTY IN ANY WAY WHATSOEVER**

#### C. EXCLUSIONS

JCI's Services and Warranty obligations do not include:

- 1) supplies, accessories, or any items normally consumed during the use of Covered Equipment, such as refrigerant, ribbons, bulbs, and paper;
- 2) failures beyond JCI's reasonable control, including (i) acts of God, (ii) abuse or misuse of equipment, (iii) alterations, adjustments, attachments, combinations, modifications, or repairs to equipment not performed or provided by JCI, (iv) items caused by or related to equipment not covered by this Agreement, (v) operator error, (vi) failure to comply with Customer's obligations contained in this Agreement, (vii) use of the Covered

Equipment in a manner or environment, or for any purpose, for which it was not designed by the manufacturer (including improper water treatment), and (viii) site-related problems, including power failures and fluctuations and failure to keep the site clean and free of dust, sand and other particles or debris;

- 3) service calls due to warranty claims on the Covered Equipment;
- 4) repainting or refinishing Covered Equipment;
- 5) electrical work to the Customer's facility;
- 6) stockpiling of parts or supplies;
- 7) the repair or replacement of ductwork, casings, cabinets, structural supports, tower fill/slats/basin, hydronic and pneumatic piping, and vessels, gaskets, and piping not normally replaced or maintained on a scheduled basis, and removal of oil from pneumatic piping;
- 8) service calls resulting from the effects of erosion, corrosion, acid cleaning, or damage from unexpected or especially severe freezing weather;
- 9) service calls required because JCI had previously been denied access to the equipment;
- 10) disposal of hazardous wastes. Hazardous wastes remain the property and the responsibility of the Customer even when removed from equipment or replaced by JCI as provided by the terms of this Agreement. The Customer shall be responsible for the proper storage and disposal of hazardous wastes. This includes, but is not limited to, used oil, contaminated or uncontaminated refrigerant, and PCBs; and
- 11) normal wear and tear.

#### D. CUSTOMER OBLIGATIONS AND COMMITMENTS TO JCI

- 1) The Customer warrants that all Covered Equipment is in good working condition and that the Customer has given JCI all information concerning the condition of the Covered Equipment.
- 2) The Customer agrees that, during the Term of this Agreement, the Customer will:
  - (a) operate the Covered Equipment according to the manufacturer's and JCI's recommendations;
  - (b) keep accurate and current work logs and information on the Covered Equipment as recommended by the manufacturer and JCI;
  - (c) provide an adequate environment for Covered Equipment as recommended by the manufacturer and JCI, including, but not limited to, adequate space, electrical power, air conditioning, and humidity control;
  - (d) notify JCI immediately of any equipment malfunction, breakdown, or other condition affecting the operation of the Covered Equipment;
  - (e) allow JCI to start and stop, periodically turn off, or otherwise change or temporarily suspend equipment operations so that JCI can perform the Services required under this Agreement;
  - (f) provide proper condenser and boiler water treatment, as necessary, for the proper functioning of Covered Equipment, if such services are not JCI's responsibility under this Agreement; and
  - (g) cooperate with JCI and provide any and all necessary information to facilitate the delivery of the Services by JCI as described herein in a timely manner; and
- 3) The Customer acknowledges that its failure to meet its obligations will relieve JCI of any responsibility, to the extent provided in this Agreement, for any equipment breakdown, or any necessary repair or replacement of any equipment and to provide any Services.

#### E. CHANGES TO CUSTOMER EQUIPMENT

The Customer retains the right to make changes or alterations to the Covered Equipment. If, in JCI's sole opinion, such changes or alterations affect JCI's Services or obligations, JCI shall have the right to make appropriate changes to the scope of this Agreement or the Contract Price.

#### F. ACCESS

The Customer will give JCI full access to all equipment that is either Covered Equipment or associated with Covered Equipment when JCI requests such access. If access cannot be provided, JCI's obligations under this Agreement will be suspended until such access is provided. Matters affecting JCI's access to the Covered Equipment may include, but are not limited to, the removal, replacement, repair, refinishing, restoration, reconstruction, or other remedial actions taken by the Customer with respect to equipment or to the Customer's facility. Suspension of JCI's duties for this reason will not cancel or suspend any of the Customer's obligations under this Agreement.

#### G. INDEMNITY

JCI and the Customer agree to indemnify the other Party and their officers, agents, directors, and employees, from third party claims, demands, or suits for bodily injury, including death, or tangible property damage resulting from the intentional misconduct or any negligent acts by their employees or agents. Customer expressly agrees JCI shall be responsible only for such injury or damage caused by the intentional misconduct or the negligent act of JCI's employees and agents and JCI shall not be responsible for any injury or damage caused, or contributed to, in any manner by Customer or any third-party. The obligations of JCI and of the Customer under this paragraph are further subject to paragraphs H and O below.

#### H. LIMITATION OF LIABILITY

JCI SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF BUSINESS, LOSS OF PROFITS OR THE LIKE) CAUSED BY THE MATERIALS, EQUIPMENT, PARTS OR SERVICES PROVIDED HEREUNDER OR THE FAILURE OF THE MATERIAL, EQUIPMENT, PART OR SERVICE TO PERFORM, ACCURATELY PERFORM, TIMELY PERFORM, OR OTHERWISE MEET THE NEEDS, SPECIFICATIONS OR EXPECTATIONS OF CUSTOMER, WHETHER BASED ON BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY OR OTHERWISE, EVEN IF JCI OR ITS REPRESENTATIVES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND EVEN IF A REMEDY SET FORTH HEREIN IS FOUND TO HAVE FAILED OF ITS ESSENTIAL PURPOSE. JCI'S TOTAL LIABILITY TO CUSTOMER FOR DAMAGES FOR ANY CAUSE WHATSOEVER SHALL BE LIMITED TO THE GREATER OF (i) \$25,000, OR (ii) THE AGGREGATE FEES PAID BY CUSTOMER TO JCI FOR THE SERVICES.

The waiver of warranty, exclusive remedies, waiver of consequential damages and limitation of liability set forth in this Agreement are fundamental elements of the basis for this Agreement. JCI would not be able to provide the products, parts or Services on an economic basis, and would not have entered into this Agreement, without such limitations

**I. FORCE MAJEURE**

- 1) JCI shall not be responsible to the Customer for damage, loss, injury, or delay caused by conditions beyond JCI's reasonable control, and without the intentional misconduct or negligence of JCI. Such conditions include, but are not limited to: (a) acts of God; (b) acts of Government agencies; (c) strikes; (d) labor disputes; (e) fire; (f) explosions or other casualties; (g) thefts; (h) vandalism; (i) terrorism, riots or war; or (j) unavailability of parts, materials or supplies.
- 2) If this Agreement covers fire safety or security equipment, the Customer understands that JCI is not an insurer regarding those services. JCI shall not be responsible for any damage or loss whatsoever that may result from fire safety or security equipment that fails to perform properly or fails to prevent loss or damage.
- 3) JCI is not responsible for any injury, loss, or damage caused by equipment that is not Covered Equipment.

**J. RENEWAL PRICE ADJUSTMENT**

JCI will provide Customer with notice of any adjustments to the Price and Payment Terms provision of this Agreement applicable to a renewal period no later than forty-five (45) days prior to the commencement of such renewal period. Unless the Customer terminates the Agreement as provided in the Term/Automatic Renewal provision of this Agreement, the adjusted price shall be the price for the renewal period.

**K. JCI'S EQUIPMENT**

JCI may provide tools, documentation, panels, or other control equipment in the Customer's building for JCI's convenience in performing JCI's Services. Such equipment shall remain JCI's property and JCI retains the right to remove the same during the Term or upon the termination of this Agreement.

**L. JCI'S EMPLOYEES**

The Customer acknowledges that JCI's employees are a valuable asset to JCI. In the event during the Term of this Agreement or one hundred eighty (180) days thereafter Customer hires any JCI employee who worked at the Customer's facility at any time the Customer agrees to 1) pay JCI an amount equal to 12 months salary for such employee, and 2) reimburse JCI for all costs associated with any training JCI provided to such employee during the three years before the date the Customer hires such employee.

**M. RESOLUTION OF DISPUTES**

Customer shall make all payments to JCI when due in accordance with the Price and Payment Terms provision of this Agreement or any renewal adjustments thereto, and such timely payment by Customer shall be a condition precedent to JCI's obligation to perform its Services hereunder. If a dispute, claim, or other matter in question ("Dispute") related in any manner to this Agreement arises, the Parties shall promptly attempt in good faith to resolve such Dispute by negotiation. The Parties further agree as follows:

- 1) **EACH PARTY WAIVES ANY RIGHT TO TRIAL IN A COURT OF LAW AND TO TRIAL BY JURY.**
- 2) **Notice of Dispute:** In order to be able to mediate or arbitrate any Dispute between JCI and Customer, written notice thereof must be given by the Party requesting mediation within five (5) days after the Dispute arises. The purpose of such notification is to place the notified Party on notice so proper measures can be taken to defend against such Dispute, and the failure to give such notice shall preclude the Party desiring arbitration from subsequently mediating or arbitrating the particular Dispute.
- 3) **Mediation:** As a condition precedent to arbitration, the Parties must submit the Dispute to mediation within five (5) days of the notice of dispute. Mediation shall be conducted in accordance with the then current mediation rules of the American Arbitration Association or other mediation service mutually agreed to by the Parties.
- 4) **Arbitration:** In the event mediation of the Dispute is unsuccessful, no later than five (5) days following such mediation the Dispute must be submitted to arbitration. Arbitration shall be conducted in accordance with the then current arbitration rules of the American Arbitration Association or other arbitration service mutually agreed to by the Parties. Arbitration must be completed within sixty (60) days after the Dispute is submitted to arbitration unless the Parties mutually agree otherwise. The award rendered by the arbitrator shall be final, and judgment may be entered there upon in accordance with applicable law in any court having competent jurisdiction thereof. The Party prevailing in the arbitration shall be entitled to an award of its reasonable costs, including reasonable attorney's fees, incurred as a result of the Dispute.
- 5) **Services Obligation Suspended:** The Parties agree while arbitration of the Dispute is pending, JCI's obligation to provide continued Services as set forth in this Agreement shall be temporarily suspended until the arbitration award is issued. In the event JCI elects to suspend its Services Customer will remain obligated to pay any outstanding amounts owed JCI but will not be obligated to pay for the Services suspended. The right of JCI to suspend its Services hereunder is in addition to all other rights JCI may have at law or in equity and does not impair the rights of JCI with regard to a Dispute hereunder. **The Customer expressly agrees JCI may not be held liable for damages of any nature which Customer may suffer as a result of JCI's temporary suspension of its Services in accordance with this provision.**
- 6) The rights and obligations of JCI herein are in addition to, and do not alter, impair, limit, or otherwise waive any other rights granted JCI in equity or by statute.

**N. TERMINATION**

In addition to the Term/Automatic Renewal provision of this Agreement, JCI and the Customer agree in the event either Party refuses or fails to perform its obligations under this Agreement in the manner specified herein, the affected Party must provide the other with written notice containing a detailed description of the alleged deficiency or breach, including specific reference to the applicable provision(s) of this Agreement within five (5) days of the alleged deficiency or breach. Should the Party alleged to be in breach of this Agreement fail to respond in writing to, or take action to cure the alleged deficiency or breach within ten (10) days of the written notice of same, the affected Party may terminate this Agreement for cause. In the event the Agreement is terminated for cause, Customer shall make payment to JCI for all undisputed amounts owed within ten (10) days of the termination effective date. A Party's termination of this Agreement for cause shall be without prejudice to any other right or remedy.

**O. ASBESTOS, MOLD AND HAZARDOUS MATERIALS**

- 1) Asbestos-Containing Materials: Neither Party desires to or is licensed to undertake direct obligations relating to the identification, abatement, cleanup, control, removal or disposal of asbestos-containing materials ("ACM"). Consistent with applicable laws, Customer shall supply JCI with any information in its possession relating to the presence of ACM in areas where JCI undertakes any Services that may result in the disturbance of ACM. It is JCI's policy to seek certification for facilities constructed prior to 1982 that no ACM is present, and Customer shall provide such certification for buildings it owns, or aid JCI in receiving such certification from facility owners in the case of buildings that it does not own, if JCI will undertake Services in the facility that could disturb ACM. If either Customer or JCI becomes aware of or suspects the presence of ACM that may be disturbed by JCI's Services, it shall immediately stop the Services in the affected area and notify the other's contacts. As between Customer and JCI, Customer shall be responsible at its sole expense for addressing the potential for or the presence of ACM in conformance with all applicable laws and addressing the impact of its disturbance before JCI continues with its Services, unless JCI had actual knowledge that ACM was present and acted in disregard of that knowledge, in which case (a) JCI shall be responsible at its sole expense for remediating areas impacted by the disturbance of the ACM, and (b) Customer shall resume its responsibilities for the ACM after JCI's remediation has been completed.
- 2) Other Hazardous Materials: JCI shall have no obligations relating to the identification, abatement, cleanup, control, removal or disposal of mold, regardless of the cause of the mold. JCI shall be responsible for removing or disposing of any Hazardous Materials that it uses in providing Services ("JCI Hazardous Materials") and, other than mold, for the remediation of any areas impacted by the release of JCI Hazardous Materials. For other Hazardous Materials that may be otherwise present at its facilities ("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 Services. If either Customer or JCI becomes aware of or suspects the presence of Non-JCI Hazardous Materials that may interfere with JCI's Services, it shall immediately stop the Services in the affected area and notify the other's contacts. As between Customer and JCI, Customer shall be responsible at its sole expense for removing and disposing of mold and Non-JCI Hazardous Materials from its facilities and the remediation of any areas impacted by mold or the release of the Non-JCI Hazardous Materials. Notwithstanding the foregoing, if JCI had actual knowledge that Non-JCI Hazardous Materials other than mold were present and acted in disregard of that knowledge, then in such case (a) JCI shall be responsible at its sole expense for the remediation of any areas impacted by JCI's release of such Hazardous Materials, and (b) Customer shall remain responsible at its sole expense for the removal of Hazardous Materials that have not been released and for releases not resulting from JCI's performance of the Services.
- 3) Environmental Indemnity. To the fullest extent permitted by law, Customer shall indemnify and hold harmless JCI and JCI's Subcontractors, and their respective 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 or the owner's use, storage, release, discharge, handling or presence of ACM or Non-JCI Hazardous Materials on, under or about the facility(ies), or the noncompliance with this Section O. To the fullest extent permitted by law, JCI shall indemnify and hold harmless Customer, its officers, directors, employees, agents, representatives, shareholders, affiliates, successors and assigns, from and against any and all losses, claims, damages, expenses (including reasonable legal fees and defense costs), claim, causes of action or liability, directly or indirectly, relating to or arising from JCI's use, storage, release, discharge, handling or presence of JCI Hazardous Materials on, under or about the facility(ies), or the noncompliance with this Section O.

#### P. ASSESSMENT

It is the Customer's responsibility to pay all taxes or other government charges relating to the Services, transfer, use, ownership, servicing, or possession of any equipment relating to this Agreement.

#### Q. MISCELLANEOUS PROVISIONS

- 1) Any notice that is required to be given under this Agreement must be in writing and sent to the Party at the address noted on the first page of this Agreement.
- 2) This Agreement cannot be transferred or assigned by Customer without the prior written consent of JCI.
- 3) This Agreement is the entire Agreement between JCI and the Customer and supersedes any prior oral understandings, written agreements, proposals, or other communications between JCI and the Customer.
- 4) Any change or modification to this Agreement will not be effective unless made in writing. Such written modification must specifically indicate that it is an amendment, change, or modifications to this Agreement.
- 5) The Customer acknowledges and agrees that any purchase order issued by Customer, in accordance with this Agreement, is intended only to establish payment authority for the Customer's internal accounting purposes. No purchase order shall be considered to be a counteroffer, amendment, modification, or other revision to the terms of this Agreement. No term or condition included in the Customer's purchase order will have any force or effect.
- 6) Should any changes to relevant regulations, laws, or codes substantially affect JCI's Services or obligations, the Customer agrees to negotiate in good faith with JCI for appropriate and equitable changes to the scope or price of the Agreement or both.
- 7) The Parties agree and acknowledge that this is a negotiated agreement and that the rule of construction that any ambiguities are to be construed against the drafting Party shall not apply.
- 8) Nothing contained in this Agreement shall create a contractual relationship with or cause of action in favor of a third party against JCI. The Services under this Agreement are being performed solely for the Customer's benefit, and no other party or entity shall have any claim against JCI because of this Agreement or the performance or non-performance of the Services hereunder.
- 9) The failure of JCI or the Customer to insist upon, or to delay enforcing the strict performance of the terms and conditions hereof, or any right or remedy, as provided herein, shall not constitute or be construed as a waiver or relinquishment of either Party's right to thereafter enforce the same in accordance with this Agreement in the event of a continuing or subsequent default on the part of JCI or the Customer.

#### R. CHOICE OF LAW

This Agreement shall be subject to and governed by the laws of the State where the project is located.

#### S. SEVERANCE

Should any term, part, portion, or provision of this Agreement be decided or declared by the courts to be, or otherwise found to be, illegal or in conflict with any law of the state governing this Agreement or the United States, or otherwise be rendered unenforceable or ineffectual, the validity of the

remaining parts, terms, portions, and provisions shall be deemed severable and shall not be affected thereby, provided such remaining parts, terms, portions, or provisions can be construed in the substance to constitute the Agreement that the Parties intended to enter into in the first instance.

**T. JCI'S INTELLECTUAL PROPERTY**

JCI shall retain all right, title and interest in and to any (a) deliverables provided to Customer hereunder, including without limitation, all software source and object code, documentation, technical information or data, specifications and designs and any changes, improvements or modifications thereto or derivatives thereof ("Deliverables") and (b) Know-How (defined below) employed by JCI in the creation of the Deliverables or performance of the Services, whether known to JCI prior to, or developed or discovered or acquired in connection with, the performance of its obligations hereunder. Ownership of all Deliverables and Know-How shall vest solely in JCI and no Deliverables shall be deemed "works made for hire." Without limiting the generality of the foregoing, ownership of all source files used in the course of performing the Services shall remain the exclusive property of JCI. For purposes of this Agreement, "Know-How" means any know-how, processes, techniques, concepts, methodologies, tools, analytical approaches, database models and designs, discoveries, and ideas furnished, produced by, developed, employed or used by JCI in the creation or provision of the Deliverables or in the performance of the Services, and any changes, improvements or modifications thereto or derivatives thereof.