

City of Houston



Administration & Regulatory Affairs

CITY OF HOUSTON, TEXAS
NOTICE OF REQUEST FOR PROPOSAL (RFP)
SOLICITATION NO.: S33-T23961

STRATEGIC PURCHASING DIVISION
"PARTNERING TO BETTER SERVE HOUSTON"

NIGP CODE:

936-09

SOLICITATION DUE DATE/TIME:

June 24, 2011 at 2:00 P.M., CST

SUBMITTAL LOCATION:

City Secretary's Office
City Hall Annex, Public Level
900 Bagby Street
Houston, Texas 77002

DESCRIPTION:

HVAC Operation and Maintenance Services for the Houston Airport System

PRE-PROPOSAL CONFERENCE:

Date	Time
June 13, 2011	9:00 A.M.

Location
HAS, 18600 Lee Rd., Conference Rm. 113 Humble, TX 77338

In accordance with T.L.G.C. § Chapter 252, competitive sealed Proposals for the services specified will be received by the City Secretary's Office of the City of Houston at the above specified location, until the time and date cited. Offers must be in the actual possession of the City Secretary's Office on or prior to the time and date, and at the location indicated above. Late offers will not be considered.

Offers must be submitted in a sealed envelope or package with the Solicitation Number and the Offeror's name and address clearly indicated on the envelope or package. All offers must be completed in ink or typewritten. Additional instructions for preparing an offer are included in this Solicitation.

OFFERORS ARE STRONGLY ENCOURAGED TO CAREFULLY READ THE ENTIRE SOLICITATION

Solicitation Contact Person:
Conley Jackson

Name

conley.jackson@houstontx.gov

E-Mail Address

City Purchasing Agent

June 3, 2011

Date

SPECIAL INSTRUCTIONS TO OFFEROR(S)
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1.0 SUBMITTAL PROCEDURE:

1.1 Eight (8) copies of the Proposal, including one (1) printed original signed in BLUE ink, and additional eight (8) electronic CD copies are to be submitted in a sealed envelope bearing the assigned Solicitation Number, located on the first page of the RFP document to:

City Secretary's Office
City Hall Annex
900 Bagby
Houston, Texas 77002

1.2 The deadline for the submittal of the Proposal to the City Secretary's Office is no later than the date and time as indicated on the first page of the RFP document. Failure to submit the required number of copies as stated above may be subject for disqualification from the Proposal process.

1.3 Respondents may elect to either mail or personally deliver their Proposals to the City Secretary's Office.

1.4 The City of Houston shall bear no responsibility for submitting responses on behalf of any Offeror. Offeror(s) may submit their Proposal to the City Secretary's Office any time prior to the stated deadline.

2.0 PROPOSAL FORMAT:

2.1 The Proposal should be electronically generated, and the printed original signed in ink. They should not be submitted in elaborate or expensive binders. Legibility, clarity, and completeness are important and essential.

2.2 The Proposal must be signed by an individual(s) legally authorized to bind the Offeror(s), and must contain a statement that the Proposal and the prices contained therein shall remain firm for a period of one hundred-eighty (180) days.

3.0 PRE-PROPOSAL CONFERENCE AND SITE VISIT:

3.1 A Pre-Proposal Conference will be held at the date, time, and location as indicated on the first page of the RFP document. Interested Offeror(s) should plan to attend. It will be assumed that potential Offeror(s) attending this meeting have reviewed the RFP in detail, and are prepared to bring up any substantive questions not already addressed by the City. Any revisions to be incorporated into this solicitation document arising from discussions before, during and subsequent to the Pre-Proposal Conference will be confirmed in writing by Letter(s) of Clarification prior to the bid proposal due date. Verbal responses will not otherwise alter the specifications, terms and conditions as stated herein. Contractors are strongly encouraged to forward all questions by e-mail to the responsible buyer prior to the pre-proposal conference.

3.2 **Site visit for George Bush International Airport (IAH) will start at 18600 Lee Road, Humble, Texas 77338 after the pre-proposal conference. Transportation to George Bush International Airport will be provided by the City. Contractors are required to have valid identification card for security clearance when making the site visit. Contractors shall be responsible for the transportation to William P. Hobby Airport (HOU) and Ellington Airport (EFD).**

3.3 Although the site visit is not mandatory, Contractors are responsible for obtaining the information discussed at the site visit.

4.0 ADDITIONAL INFORMATION AND SPECIFICATION CHANGES:

4.1 Requests for additional information and questions should be addressed to the Administration and Regulatory Affairs Department, Strategic Purchasing Division Buyer, Conley Jackson, telephone: 832.393.8733, fax: 832.393. 8759, or e-mail (preferred method to): conley.jackson@houstontx.gov, no later than **Wednesday, June 15, 2011 at 1:00 p.m. CST.** The City of Houston shall provide written response to all questions received in writing before the submittal deadline. Questions received from all Offeror(s) shall be answered and sent to all Offeror(s) who are listed as having obtained the RFP. Offeror(s) shall be notified in writing of any changes in the specifications contained in this RFP.

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5.0 LETTER(S) OF CLARIFICATION:

- 5.1 All Letters of Clarification and interpretations to this Solicitation shall be in writing. Any Letter of Clarification(s) or interpretation that is not in writing shall not legally bind the City of Houston. Only information supplied by the City of Houston in writing or in this RFP should be used in preparing Proposal responses.
- 5.2 The City does not assume responsibility for the receipt of any Letters of Clarification sent to Offeror(s).

6.0 EXAMINATION OF DOCUMENTS AND REQUIREMENTS:

- 6.1 Each Offeror shall carefully examine all RFP documents and thoroughly familiarize themselves with all requirements prior to submitting a Proposal to ensure that the Proposal meets the intent of this RFP.
- 6.2 Before submitting a Proposal, each Offeror shall be responsible for making all investigations and examinations that are necessary to ascertain conditions and requirements affecting the requirements of this RFP. Failure to make such investigations and examinations shall not relieve the Offeror from obligation to comply, in every detail, with all provisions and requirements of the RFP.

7.0 EXCEPTIONS TO TERMS AND CONDITIONS:

- 7.1 All exceptions included with the Proposal shall be submitted in a clearly identified separate section of the Proposal in which the Offeror clearly cites the specific paragraphs within the RFP where the Exceptions occur. Any Exceptions not included in such a section shall be without force and effect in any resulting contract unless such Exception is specifically referenced by the City Purchasing Agent, City Attorney, Director and/or designee(s) or designee in a written statement. The Offeror's preprinted or standard terms will not be considered by the City as a part of any resulting contract.
- 7.2 All Exceptions that are contained in the Proposal may negatively affect the City's Proposal evaluation based on the evaluation criteria as stated in the RFP, or result in possible rejection of Proposal.

8.0 POST-PROPOSAL DISCUSSIONS WITH OFFEROR(S):

- 8.1 It is the City's intent to commence final negotiation with the Offeror(s) deemed most advantageous to the City. The City reserves the right to conduct post-Proposal discussions with any Offeror(s).

9.0 PROTEST:

- 9.1 A protest shall comply with and be resolved, according to the City of Houston Municipal Code, Chapter 15, Article 1 and rules adopted thereunder. Protests shall be submitted in writing and filed with both, the City Purchasing Agent and the Solicitation contact person as identified on the first page of the RFP. A pre-award protest of the RFP shall be received by the City Purchasing Agent prior to the contract award date. A post-award protest of an awarded contract shall be filed within ten (10) days after the protester knows, or should have known, the basis or outcome of the contract award.
- 9.2 A protest shall include the following:
 - 9.2.1 The name, address, e-mail, and telephone number of the protester;
 - 9.2.2 The signature of the protester or its representative who has the delegated authority to legally bind its company;
 - 9.2.3 Identification of the RFP description and the RFP or contract number;
 - 9.2.4 A detailed written statement of the legal and factual grounds of the protest, including copies of relevant documents, etc.; and
 - 9.2.5 The desired form of relief or outcome, which the protester is seeking.

UNIFORM INSTRUCTIONS TO OFFEROR(S)
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- 1.0 This RFP does not commit the City of Houston to award a contract, issue a purchase order, or to pay any costs incurred in the preparation of a Proposal in response to this request.
- 2.0 The Proposals will become part of the City's official files without any obligation on the City's part. All Responses shall be held confidential from all parties other than the City until after the contract is awarded. Afterward, the Proposals shall be available to the public.
- 3.0 The City of Houston shall not be held accountable if material from responses is obtained without the written consent of the Offeror by parties other than the City, at any time during the Proposal evaluation process.
- 4.0 In the event an Offeror submits trade secret information to the City, the information must be clearly labeled as a **"Trade Secret."** The City will maintain the confidentiality of such trade secrets to the extent provided by law.
- 5.0 Offeror(s) shall not offer any gratuities, favors, or anything of monetary value to any official or employee of the City of Houston (including any and all members of Proposal evaluation committees).
- 6.0 Offeror(s) shall not collude in any manner, or engage in any practices, with any other Offeror(s), which may restrict or eliminate competition, or otherwise restrain trade. This is not intended to preclude subcontracts and joint ventures for the purposes of: a) responding to this RFP; or b) establishing a project team with the required experience and/or capability to provide the goods or services specified herein. Conversely, the City can combine or consolidate Proposals, or portions thereof, for the purposes mentioned above.
- 7.0 All Proposals submitted must be the original work product of the Offeror. The copying or paraphrasing of the work product of another Offeror is not permitted.
- 8.0 The RFP and the related responses of the selected Offeror will by reference (within either a contract or purchase order) become part of any formal Agreement between the selected Offeror and the City. The City and the selected Offeror may negotiate a Contract or contracts for submission to City Council for consideration and approval. In the event an Agreement cannot be reached with the selected Offeror, the City reserves the right to select an alternative Offeror. The City reserves the right to negotiate with alternative Offeror the exact terms and conditions of the contract.
- 9.0 Offeror(s), their authorized representatives and their agents are responsible for obtaining, and will be deemed to have, full knowledge of the conditions, requirements, and specifications of the RFP at the time a Proposal is submitted to the City.
- 10.0 The Agreement(s) shall become effective on or about **November 1, 2011** for a term of three (3) years. The City of Houston reserves the option of extending the Agreement(s) on an annual basis for two (2) additional one-year terms, or portions thereof.
- 11.0 If necessary for the completion of tasks required under the project, the City will provide reasonable working space to the Prime Contractor.
- 12.0 Clerical support and reproduction of documentation costs shall be the responsibility of the Prime Contractor. If required, such support and costs shall be defined in the negotiated Agreement.
- 13.0 Prime Contractor personnel essential to the continuity, and the successful and timely completion of the project should be available for the duration of the project unless substitutions are approved in writing by the City Project Director and/or designee.
- 14.0 The Prime Contractor will be expected to adhere to all standard contractual requirements of the City which shall include, but are not limited to, provisions for: Time Extensions; Appropriation of Available Funds; Approvals; Term and Termination; Independent Contractor; Business Structure and Assignments; Subcontractors; Parties in Interest; Non-Waiver; Applicable Laws; Notices; Use of Work Products; Equal Employment Opportunity; Force Majeure; and Inspections and Audits.

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- 15.0 The City may terminate its performance under a contract in the event of a default by the Prime Contractor and a failure to cure such default after receiving notice of default from the City. Default may result from the Prime Contractor's failure to perform under the terms of the contract or from the Prime Contractor becoming insolvent, having a substantial portion of its assets assessed for the benefit of creditors, or having a receiver or trustee appointed.
- 16.0 Prime Contractor must promptly report to the City Project Director and/or designee any conditions, transactions, situation, or circumstances encountered by the Prime Contractor which would impede or impair the proper and timely performance of the contract.
- 17.0 The City of Houston has sole discretion and reserves the right to cancel this RFP or to reject any or all Proposals received prior to contract award.
- 18.0 The City reserves the right to waive any minor informality concerning this RFP, or to reject any or all Proposals or any part thereof.
- 19.0 The City reserves the right to request clarity of any Proposal after they have been received.
- 20.0 The City reserves the right to select elements from different individual Proposals and to combine and consolidate them in any way that best serves the City's interest. The City reserves the right to reduce the scope of the project and evaluate only the remaining elements from all Proposals. The City reserves the right to reject specific elements contained in all Proposals and to complete the evaluation process based only on the remaining items.
- 21.0 The selected Offeror(s) must furnish a "Certificate of Registration" which authorizes them to conduct business in the State of Texas prior to the awarding of the contract. Such Registration is obtained from the Texas Secretary of State's Office, which will also provide the certification thereof.
- 22.0 After contract execution, the successful Offeror shall be the Prime Contractor and responsible party for contracting and communicating the work to be performed to subcontractors, and for channeling other information between the City and subcontractors. Any subcontracting must be specified in the Proposal. Any subcontracting not specified in the Proposal will need prior written approval from the City Purchasing Agent.
- 23.0 Prime Contractor assumes total responsibility for the quality and quantity of all work performed, whether it is undertaken by the Prime Contractor or is subcontracted to another organization.
- 24.0 If subcontractor involvement is required in the use of license, patent, or proprietary process, the Prime Contractor is responsible for obtaining written authorization from the subcontractor to use the process, or provide another process comparable to that which is required and which is acceptable to the City, all at no additional cost or liability to the City.

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1.0 INDEMNITY AND RELEASE:

1.1 RELEASE

PRIME CONTRACTOR/SUPPLIER AGREES TO AND SHALL RELEASE THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") FROM ALL LIABILITY FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT, EVEN IF THE INJURY, DEATH, DAMAGE, OR LOSS IS CAUSED BY THE CITY'S SOLE OR CONCURRENT NEGLIGENCE AND/OR THE CITY'S STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY.

1.2 INDEMNIFICATION

PRIME CONTRACTOR/SUPPLIER AGREES TO AND SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") HARMLESS FOR ALL CLAIMS, CAUSES OF ACTION, LIABILITIES, FINES, AND EXPENSES (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS, AND ALL OTHER DEFENSE COSTS AND INTEREST) FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT INCLUDING, WITHOUT LIMITATION, THOSE CAUSED BY:

1.2.1 PRIME CONTRACTOR/SUPPLIERS AND/OR ITS AGENTS', EMPLOYEES', OFFICERS', DIRECTOR AND/OR DESIGNEES', CONTRACTORS', OR SUBCONTRACTORS' (COLLECTIVELY IN NUMBERED PARAGRAPHS 1.1-1.3, "PRIME CONTRACTOR/SUPPLIER") ACTUAL OR ALLEGED NEGLIGENCE OR INTENTIONAL ACTS OR OMISSIONS;

1.2.2 THE CITY'S AND PRIME CONTRACTOR/SUPPLIER'S ACTUAL OR ALLEGED CONCURRENT NEGLIGENCE, WHETHER PRIME CONTRACTOR/SUPPLIER IS IMMUNE FROM LIABILITY OR NOT; AND

1.2.3 THE CITY'S AND PRIME CONTRACTOR/SUPPLIER'S ACTUAL OR ALLEGED STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY, WHETHER PRIME CONTRACTOR/SUPPLIER IS IMMUNE FROM LIABILITY OR NOT.

1.2.4 PRIME CONTRACTOR/SUPPLIER SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY HARMLESS DURING THE TERM OF THIS AGREEMENT AND FOR FOUR YEARS AFTER THE AGREEMENT TERMINATES. PRIME CONTRACTOR/SUPPLIER'S INDEMNIFICATION IS LIMITED TO \$500,000 PER OCCURRENCE. PRIME CONTRACTOR/SUPPLIER SHALL NOT INDEMNIFY THE CITY FOR THE CITY'S SOLE NEGLIGENCE.

1.2.5 CONTRACTOR AGREES TO AND SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE CITY) FROM ALL CLAIMS OR CAUSES OF ACTION BROUGHT AGAINST THE CITY ALLEGING THAT THE CITY'S USE OF ANY EQUIPMENT, SOFTWARE, PROCESS, OR DOCUMENTS CONTRACTOR FURNISHES DURING THE TERM OF THIS AGREEMENT INFRINGES ON A PATENT, COPYRIGHT, OR TRADEMARK, OR MISAPPROPRIATES A TRADE SECRET. CONTRACTOR SHALL PAY ALL COSTS (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS, AND ALL OTHER DEFENSE COSTS, AND INTEREST) AND DAMAGES AWARDED. CONTRACTOR SHALL NOT SETTLE ANY CLAIM ON TERMS WHICH PREVENT THE CITY FROM USING THE EQUIPMENT, SOFTWARE, PROCESS, AND DOCUMENTS WITHOUT THE CITY'S PRIOR WRITTEN CONSENT.

WITHIN 60 DAYS AFTER BEING NOTIFIED OF THE CLAIM, CONTRACTOR SHALL, AT ITS OWN EXPENSE, EITHER (1) OBTAIN FOR THE CITY THE RIGHT TO CONTINUE USING THE EQUIPMENT, SOFTWARE, PROCESS, AND DOCUMENTS OR, (2) IF BOTH PARTIES AGREE, REPLACE OR MODIFY THEM WITH COMPATIBLE AND FUNCTIONALLY EQUIVALENT PRODUCTS. IF NONE OF THESE ALTERNATIVES IS REASONABLY AVAILABLE, THE CITY MAY RETURN THE EQUIPMENT, SOFTWARE, OR DOCUMENTS, OR DISCONTINUE THE PROCESS, AND CONTRACTOR SHALL REFUND THE PURCHASE PRICE.

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1.3 INDEMNIFICATION-SUBCONTRACTOR'S INDEMNITY

1.3.1 CONTRACTOR SHALL REQUIRE ALL OF ITS SUBCONTRACTORS (AND THEIR SUBCONTRACTORS) TO RELEASE AND INDEMNIFY THE CITY TO THE SAME EXTENT AND IN SUBSTANTIALLY THE SAME FORM AS ITS RELEASE AND INDEMNITY TO THE CITY.

2.0 INDEMNIFICATION PROCEDURES:

2.1 Notice of Claims. If the City or Prime Contractor receives notice of any claim or circumstances which could give rise to an indemnified loss, the receiving party shall give written notice to the other party within 30 days. The notice must include the following:

2.1.1 a description of the indemnification event in reasonable detail,

2.1.2 the basis on which indemnification may be due, and

2.1.3 the anticipated amount of the indemnified loss.

2.2 This notice does not stop or prevent the City from later asserting a different basis for indemnification or a different amount of indemnified loss than that indicated in the initial notice. If the City does not provide this notice within the 30-day period, it does not waive any right to indemnification except to the extent that Prime Contractor/Supplier is prejudiced, suffers loss, or incurs expense because of the delay.

2.3 Defense of Claims.

2.3.1 Assumption of Defense. Prime Contractor may assume the defense of the claim at its own expense with counsel chosen by it that is reasonably satisfactory to the City. Prime Contractor/Supplier shall then control the defense and any negotiations to settle the claim. Within 10 days after receiving written notice of the indemnification request, Prime Contractor must advise the City as to whether or not it will defend the claim. If Prime Contractor does not assume the defense, the City shall assume and control the defense, and all defense expenses constitute an indemnification loss.

2.3.2 Continued Participation. If Prime Contractor elects to defend the claim, the City may retain separate counsel to participate in (but not control) the defense and to participate in (but not control) any settlement negotiations. Prime Contractor may settle the claim without the consent or agreement of the City, unless it (i) would result in injunctive relief or other equitable remedies or otherwise require the City to comply with restrictions or limitations that adversely affect the City, (ii) would require the City to pay amounts that Prime Contractor does not fund in full, (iii) would not result in the City's full and complete release from all liability to the plaintiffs or claimants who are parties to or otherwise bound by the settlement.

3.0 INSURANCE REQUIREMENTS:

3.1 The Contractor shall obtain and maintain in effect during the term of this Agreement, insurance coverage as set forth below and shall furnish certificates of insurance showing the City as an additional insured, in duplicate form, prior to the beginning of the Contract. The City shall be named as an additional insured on all such policies except Professional Liability and Workers' Compensation, must contain an endorsement that the policy is primary to any other insurance available to the Additional Insured with respect to claims arising under the Agreement. **The issuer of any policy shall have a Certificate of Authority to transact insurance business in the State of Texas or have a Best's rating of at least B+ and a Best's Financial Size Category of Class VI or better, according to the most current edition of Best's Key Rating Guide, Property-Casualty United States.**

3.2 Comprehensive General Liability including Contractual Liability and Automobile Liability insurance shall be in at least the following amounts:

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3.2.1 Commercial General Liability Insurance including Contractual Liability:

3.2.1.1 \$500,000 per occurrence

3.2.1.2 \$1,000,000 aggregate, (defense costs excluded from face value of the policy)

3.2.2 Workers' Compensation:

3.2.2.1 Amount shall be statutory amount

3.2.2.2 **Employer's Liability cannot be used as a substitute for Workers' Compensation**

3.2.3 Automobile Liability (See Note Below):

\$1,000,000 Combined Single Limit per occurrence

Defense costs are excluded from the face amount of the policy. Aggregate Limits are per 12-month policy period unless otherwise indicated.

3.2.4 Employer's Liability:

3.2.4.1 Bodily injury by accident \$100,000 (each accident)

3.2.4.2 Bodily injury by disease \$100,000 (policy limit)

3.2.4.3 Bodily injury by disease \$100,000 (each employee)

3.3 Automobile liability insurance for autos furnished or used in the course of performance of this contract including Owned, Non-owned and Hired Auto coverage (Any Auto coverage may be substituted for Owned, Non-owned and Hired Auto coverage.) If no autos are owned by the Contractor, coverage may be limited to Non-owned and Hired Autos. If Owned Auto coverage cannot be purchased by Contractor, Scheduled Auto coverage may be substituted for Owned Auto coverage. **EACH AUTO USED IN PERFORMANCE OF THIS CONTRACT MUST BE COVERED IN THE LIMITS SPECIFIED.**

3.4 If the City of Houston requires you to maintain in effect insurance coverage during the term of a contract resulting from the City's acceptance of your response to this request for proposal ("potential contract"), all of your insurance policies must require on their face, or by endorsement, that your insurance carrier waives any rights of subrogation against the City of Houston except for Professional Liability insurance. You must give 30-days' written notice to the City Purchasing Agent if any of your insurance policies are to be cancelled, materially changed, or not renewed.

Within this 30-day period, you shall provide other suitable policies in lieu of those about to be canceled, materially changed, or not renewed so as to maintain in effect the required coverage. If you do not comply with this requirement, the Purchasing Agent, at his or her sole discretion, may: (1) immediately suspend you from any further performance under the potential contract and begin procedures to terminate for default, or (2) purchase the required insurance with City funds and deduct the cost of the premiums from amounts due to you under the potential contract.

3.5 If any part of the work is sublet, similar insurance shall be provided by or in behalf of the Subcontractor to cover their operations, and the Contractor shall furnish evidence of such insurance, satisfactory to the City. In the event a Subcontractor is unable to furnish insurance in the limits required under the contract, the Contractor shall endorse the Subcontractor as an Additional Insured on their policies excluding Workers' Compensation and Employer's Liability.

3.5.1 (See Insurance Requirements Exhibit for a sample insurance certificate format.)

3.5.2 Only unaltered original insurance certificates endorsed by the underwriter are acceptable. Photocopies are unacceptable.

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- 3.6 Contractor shall maintain in effect certain insurance coverage, which is described as follows:
- 3.6.1 Form of Policies: The Director and/or designee may approve the form of the insurance policies, but nothing the Director and/or designee does or fails to do relieves Contractor from its duties to provide the required coverage under this Agreement. The Director and/or designee's actions or in-actions do not waive the City's right under this Agreement.
- 3.6.2 Issuers of Policies: The issuer of any policy shall have a Certificate of Authority to transact insurance business in Texas or have a Best's rating of at least B+ and a Best's Financial Size Category of Class VI or better, according to the most current edition Best's Key Rating Guide, Property-Casualty United States.
- 3.6.3 Insured Parties: Each policy, except those for Workers Compensation, Employer's Liability, and Professional Liability, must name the City (and its officers, agents, and employees) as Additional Insured parties on the original policy and all renewals or replacements.
- 3.6.4 Deductibles: Contractor shall be responsible for and bear any claims or losses to the extent of any deductible amounts and waives any claim it may have for the same against the City, its officers, agents, or employees.
- 3.6.5 Cancellation: Each policy must state that it may not be canceled, materially modified, or non-renewed unless the contractor gives the Director and/or designee 30 days' advance written notice. Contractor shall give written notice to the Director and/or designee within five days of the date on which total claims by any party against Contractor reduce the aggregate amount of coverage below the amounts required by this Agreement. In the alternative, the policy may contain an endorsement establishing a policy aggregate for the particular project or location subject to this Agreement.
- 3.6.6 Subrogation: Each policy must contain an endorsement to the effect that the issuer waives any claim or right of subrogation to recover against the City, its officers, agents, or employees, except for Professional Liability insurance.
- 3.6.7 Endorsement of Primary Insurance: Each policy, except Worker's Compensation and Professional Liability (if any), must contain an endorsement that the policy is primary to any other insurance available to the Additional Insured with respect to claims arising under this Agreement.
- 3.6.8 Liability for Premium: Contractor shall pay all insurance premiums, and the City shall not be obligated to pay any premiums.
- 3.6.9 Subcontractors: Contractor shall require all subcontractors to carry insurance naming the City as an additional insured and meeting all of the above requirements except amount. The amount must be commensurate with the amount of the subcontract, but in no case less than \$500,000 per occurrence. Contractor shall provide copies of insurance certificates to the Director and/or designee.
- 3.6.10 Proof of Insurance: On the effective date and at any time during the Term of this Agreement, Contractor shall furnish the Director and/or designee with Certificates of Insurance, along with an Affidavit from Contractor confirming that the Certificates accurately reflect the insurance coverage maintained. If requested in writing by the Director and/or designee, Contractor shall furnish the City with certified copies of Contractor's actual insurance policies.
- 3.6.10.1 Contractor shall continuously and without interruption, maintain in force the required insurance coverage's specified in this Section. If Contractor does not comply with this requirement, the Director and/or designee, at his or her sole discretion, may immediately suspend Contractor from any further performance under this Agreement and begin procedures to terminate for default, or
- 3.6.10.2 Purchase the required insurance with City funds and deducts the cost of the premiums from amounts due to Contractor under this Agreement.

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3.6.10.3 The City shall never waive or be stopped to assert its right to terminate this Agreement because of its acts or omissions regarding its review of insurance documents.

3.6.11 Other Insurance: If requested by the Director and/or designee, Contractor shall furnish adequate evidence of Social Security and Unemployment Compensation Insurance, to the extent applicable to Contractor's operations under this Agreement.

4.0 CONTRACTOR PERFORMANCE LANGUAGE:

4.1 Contractor should make citizen satisfaction a priority in providing services under this contract. Contractor's employees should be trained to be customer-service oriented and to positively and politely interact with citizens when performing contract services. Contractor's employees should be clean, courteous, and efficient and neat in appearance at all times and committed to offering the highest degree of service to the public. If, in the Director and/or designee's determination, the Contractor is not interacting in a positive and polite manner with citizens, the Contractor shall take all remedial steps to conform to the standards set by this contract and is subject to termination for breach of contract.

5.0 INSPECTIONS AND AUDITS:

5.1 City representatives may have the right to perform, or have performed, (1) audits of Contractor's books and records, and (2) inspections of all places where work is undertaken in connection with this Agreement. Contractor shall keep its books and records available for this purpose for at least three (3) years after this Agreement terminates. This provision does not affect the applicable statute of limitations.

6.0 INTERPRETING SPECIFICATIONS:

6.1 *The specifications and product references contained herein are intended to be descriptive rather than restrictive. The City is soliciting Proposals to provide a complete product and service package, which meets its overall requirements. Specific equipment and system references may be included in this RFP for guidance, but they are not intended to preclude Offeror(s) from recommending alternative solutions offering comparable or better performance or value to the City. Unless specifically stated otherwise with regard to a specific item of equipment, it should be assumed that the City requires all equipment proposed for this project to be supported by a manufacturer's warranty, which is equal to or better than the prevailing standard in the industry.*

6.2 Changes in the specifications, terms and conditions of this RFP will be made in writing by the City prior to the Proposal due date. Results of informal meetings or discussions between a potential Offeror(s) and a City of Houston official or employee may not be used as a basis for deviations from the requirements contained in this RFP.

7.0 CONTRACTOR DEBT:

7.1 **IF CONTRACTOR, AT ANY TIME DURING THE TERM OF THIS AGREEMENT, INCURS A DEBT, AS THE WORD IS DEFINED IN SECTION 15-122 OF THE HOUSTON CITY CODE OF ORDINANCES, IT SHALL IMMEDIATELY NOTIFY THE CITY CONTROLLER IN WRITING. IF THE CITY CONTROLLER BECOMES AWARE THAT CONTRACTOR HAS INCURRED A DEBT, HE SHALL IMMEDIATELY NOTIFY CONTRACTOR IN WRITING. IF CONTRACTOR DOES NOT PAY THE DEBT WITHIN 30 DAYS OF EITHER SUCH NOTIFICATION, THE CITY CONTROLLER MAY DEDUCT FUNDS IN AN AMOUNT EQUAL TO THE DEBT FROM ANY PAYMENTS OWED TO CONTRACTOR UNDER THIS AGREEMENT, AND CONTRACTOR WAIVES ANY RECOURSE THEREFOR.**

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1.0 LOCAL MINORITY/WOMEN BUSINESS ENTERPRISE PARTICIPATION:

- 1.1 Contractor shall comply with the City's Minority and Women Business Enterprise ("M/WBE") programs as set out in Chapter 15, Article V of the City of Houston Code of Ordinances. Contractor shall make good faith efforts to award subcontracts or Supply Agreements in at least **11%** of the value of this Agreement to M/WBEs. Contractor acknowledges that it has reviewed the requirements for good faith efforts on file with the City's Affirmative Action Division, and will comply with them.
- 1.2 Contractor shall require written subcontracts with all M/WBE subcontractors and shall submit all disputes with M/WBEs to binding arbitration in Houston, Texas if directed to do so by the Affirmative Action Division Director and/or designee. M/WBE subcontracts must contain the Terms set out in **Exhibit II**. If Contractor is an individual person (as distinguished from a corporation, partnership, or other legal entity), and the amount of the subcontract is \$50,000 or less, the subcontract must also be signed by the attorneys of the respective parties.

2.0 CITY CONTRACTORS' PAY OR PLAY PROGRAM:

- 2.1 The requirements and terms of the City of Houston Pay or Play Program, as set out in Executive Order 1-7, are incorporated into this Agreement for all purposes. Contractor has reviewed Executive Order No. 1-7 and shall comply with its Terms and Conditions as they are set out at the time of City Council approval of this Agreement. This provision requires certain Contractors to offer to certain employees a minimal level of health benefits or to contribute a designated amount to be used to offset the costs of providing health care to uninsured people in the Houston/Harris County area. Failure to complete **Exhibit X** "Pay or Play" Acknowledgement Form & Certification of Agreement to Comply with Pay or Play Program may be just cause for rejection of your Proposal.

3.0 CITY CONTRACTOR OWNERSHIP DISCLOSURE ORDINANCE:

- 3.1 City Council requires knowledge of the identities of the owners of entities seeking to contract with the City in order to review their indebtedness to the City prior to entering into contracts. Therefore, all respondents to this RFP must comply with Houston Code of Ordinances Chapter 15, as amended (Sections 15-122 through 15-126) relating to the disclosure of owners of entities bidding on, proposing for or receiving City contracts.
- 3.2 Completion of Exhibit VI – "Affidavit of Ownership or Control" will satisfy this requirement. Failure to provide this information may be just cause for rejection of your Bid or Proposal.

4.0 CITY OF HOUSTON FAIR CAMPAIGN ORDINANCE:

- 4.1 The City of Houston Fair Campaign Ordinance makes it unlawful for a Contractor to offer any contribution to a candidate for City elective office. For purposes of this ordinance a contract is defined as any contract for goods or services having a value in excess of \$30,000 or more, regardless of the way by which it was solicited or awarded. **Exhibit V** of this RFP describes the contract and documentation requirements relating to this Ordinance.

5.0 DRUG DETECTION AND DETERRENCE PROCEDURES FOR CONTRACTORS:

- 5.1 It is the policy of the City to achieve a drug-free workforce and to provide a workplace that is free from the use of illegal drugs and alcohol. It is also the policy of the City that the manufacture, distribution, dispensation, possession, sale or use of illegal drugs or alcohol by Contractors while on City premises is prohibited. Accordingly, effective September 1, 1994, and pursuant to the Mayor's Executive Order 1-31, as a condition to the award of any contract for labor or services, a successful Offeror(s) must certify to its compliance with this policy. **EXHIBIT VII** contains the standard language, which will be used in each contract for labor or services, as well as the Executive Order 1-31 disclosure and compliance forms (Attachments A, B, and C). These forms must be completed and returned prior to award.

SPECIAL TERMS AND CONDITIONS
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6.0 PROJECT ADMINISTRATION:

6.1 Questions regarding the scope of the project, technical specifications, proposed applications, etc., may be addressed to the project manager at the Pre-Proposal conference.

7.0 PROCUREMENT TIMELINE/SCHEDULE:

7.1 Listed below is the important and estimated completion dates and times for this Request for Proposal (RFP).

<u>EVENT</u>	<u>DATE</u>
Date of RFP Issued	June 3, 2011
Pre-Proposal Conference	June 13, 2011
Questions from Proposers Due to City	June 15, 2011
Proposals Due from Offeror(s)	June 24, 2011
Notification of Intent to Award (<i>Estimated</i>)	September 14, 2011
Council Agenda Date (<i>Estimated</i>)	October 26, 2011
Contract Start Date (<i>Estimated</i>)	November 1, 2011

SPECIFICATIONS / SCOPE OF WORK
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SCOPE OF SERVICES
PERFORMANCE/WORK STATEMENT

1.0 **BACKGROUND**

1.1 The Houston Airport System (HAS) operates the City of Houston's three (3) major airports: George Bush Intercontinental Airport/Houston (IAH), William P. Hobby Airport (HOU), and Ellington Airport (EFD). HAS passenger traffic is approximately 50 million passengers per year. Management of the Airports includes coordination with FAA, air carriers, and other Federal and State agencies to maintain the highest standards of service and safety to Airport patrons. HVAC SYSTEMS operations and maintenance serves a vital role in the efficient operation of the Houston Airport System.

1.2 Purpose of RFP

The Houston airport system is seeking proposals for operations and maintenance of heating, ventilating, air conditioning systems, associated plumbing, electrical, and control systems (HVAC SYSTEMS) in the city's three major airports. Sections 1- 34 represent the suggested minimum work requirements.

2.0 **SCOPE OF WORK**

2.1 General – Operation and Maintenance Requirements

2.1.1 Facilities Included

Contractor shall provide all management, supervision, skilled and unskilled labor, tools, service and maintenance materials, equipment, outside services, replacement equipment and parts, components and appurtenances, instruments, expendables, supplies, training, and insurance as required for Operation and Maintenance to ensure Best-in-Practice Service of all Work described in the Agreement for HVAC SYSTEMS installed in the following airport facilities:

2.1.1.1 George Bush Intercontinental Airport/Houston (IAH)

2.1.1.2 William P. Hobby Airport, Houston (HOU)

2.1.1.3 Ellington Airport (EFD)

2.1.2 These three airport facilities hereinafter may also be referred to jointly as Airports. These facilities are under the supervision of HAS for the City of Houston.

2.1.3 (IAH) includes the Central Plant, Old FAA Tower, Terminals A, B, C, D, Flight Information System (FIS), and Other Remote Facilities not connected to the Central Plant's Primary Cooling and Heating water distribution systems.

2.1.4 (HOU) includes the Main Terminal, Central Concourse, and Other Remote Buildings/Facilities.

2.1.5 (EFD) includes the Airport Administration Building # 510, Airfield & Grounds Building, Control Tower, Vault, North Generator, and South Generator.

2.2 Work Included – General

2.2.1 The Work provided by Contractor under the Agreement includes Basic Services and Other Work/Services.

2.2.2 Work to proceed will be initiated by a notice to proceed for each Airport.

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3.0 MANAGEMENT AND TECHNICAL RFQ INFORMATION TO BE SUPPLIED BY CONTRACTOR

3.1 Contractors shall respond to the following. Please repeat the question in your text and provide your answer directly below it. Answers must be precise and to the point. Marketing material is not an acceptable substitute for a direct answer.

3.1.1 Executive Summary

3.1.1.1 Provide an executive summary, containing synopsis of Contractor's history, project development approach, pricing structure, and HVAC Systems service capability.

3.1.2 Management Approach

3.1.2.1 Define Contractors approach to managing, operating, and maintaining HVAC Systems at the Airport.

3.1.2.2 Provide Contractor's approach and methodology for Phase-In transition.

3.1.2.3 State how the Contractor intends to meet the requirements of this RFP. Contractor's response must include, but is not limited to proposing / describing methodologies, approaches, and technical / innovative solutions.

3.1.2.4 Provide a chart showing corporate organization starting from the CEO to the Project Manager and indicate how this organization will interface with HAS.

3.1.2.5 Identify the corporate personnel who will have oversight of the Agreement and provide a resume of these individuals.

3.1.3 Spare Parts

3.1.3.1 Describe Contractor's plan for providing and managing spare parts, replacement parts, equipment, expendables, and consumables required for maintenance, etc. under the Agreement.

3.1.4 Maintenance Management System (MMS)

3.1.4.1 Describe your company's proposed MMS.

3.1.4.2 Verify that your company will upload the current MMS information from the existing Maximo System to Contractor's MMS.

3.1.4.3 Verify that in the future, at HAS request, your company will upload the MMS information to the HAS's MMS.

3.1.4.4 For the installation, operations, and maintenance, refer to Management Maintenance System Section.

3.1.5 Financial / Insurance

3.1.5.1 Provide the latest audited annual reports or equivalent financial statements for the last two (2) years to demonstrate sufficient financial resources.

3.1.6 Provide evidence that Contractor can provide the insurance indicated in the Request for Proposal.

3.1.7 Project Organization / Staffing

3.1.7.1 Describe Contractor's staffing proposal for managing, operating, and maintaining the HVAC Systems.

3.1.7.2 Describe Contractor's plan for transition during phase-in. Describe Contractor's staffing strategies to insure compliance with all phase-in requirements.

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- 3.1.7.3 Describe positions, qualifications and duties for all proposed staffing.
- 3.1.7.4 Describe customer dispute resolution process.
- 3.1.7.5 Describe how Contractor will develop and implement a full service 24/7, 365 days per year schedule detailing the responsibilities of assigned personnel.
- 3.1.7.6 Describe Contractor's contingency plan in addressing additional staffing requirements that may be required for emergencies, equipment failure, inclement weather conditions, etc.
- 3.1.7.7 State how Contractor shall ensure that resources are effectively applied to accomplish RFP scope of work.
- 3.1.7.8 Describe productivity enhancement program(s).
- 3.1.7.9 Describe how Contractor determines the ratio of supervisor to operation and maintenance personnel staffing on a service contract for HVAC SYSTEMS similar to this proposal.
- 3.1.7.10 Describe Contractor's selection process and basis on hiring competent and qualified HVAC operation and maintenance personnel.
- 3.1.8 Define Contractors competitive advantages for the services requested in this RFP.
- 3.1.9 Reliability Centered Maintenance (RCM)
 - 3.1.9.1 Contractor must submit a narrative describing the Contractor's understanding of RCM requirements, processes, and/or similar type program.
- 3.1.10 Quality
 - 3.1.10.1 Describe Contractor's Quality Assurance Program or continuous improvement process program currently in place.
 - 3.1.10.2 Describe Contractor's process for rectifying or minimizing recurrences of quality problems.
 - 3.1.10.3 Describe Contractor's organization's program for ensuring a high quality of work.
 - 3.1.10.4 Describe how Contractor's organization would manage and resolve complaints, including those of The City of Houston. How does Contractor capture and report customer feedback?
 - 3.1.10.5 Describe Contractor's tracking and reporting mechanisms for documenting service and quality.
- 3.1.11 Discuss how Contractor will ensure that resources are effectively applied to accomplish the Scope of Work defined herein.
- 3.1.12 Discuss how Contractor will foster alertness and responsiveness of reporting any wrongdoings or illegal activities in the workplace.
- 3.1.13 Describe Contractor's philosophy on operating the Central Plants efficiently.
- 3.1.14 Other Work/Services
 - 3.1.14.1 Identify key personnel your company would propose for providing other work/services candidates specified in the RFP.

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3.1.15 Training

3.1.15.1 Describe Contractor's training program including but not limited to procedures and checklists for ensuring all personnel, including newly-hired workers, are familiar with all work at the HVAC.

3.1.16 Energy Management

3.1.16.1 Describe Contractor's approach and methodology for:

3.1.16.1.1 Operating and maintain HVAC Systems in a manner to utilize the energy source which produces the lowest cost.

3.1.16.1.2 Evaluating energy usage and identifying opportunities for efficiencies/savings.

3.1.16.1.3 Identifying energy conservation strategies.

3.1.16.1.4 Contractor, at HAS discretion, shall implement a shared energy savings approach whereby 80% of the savings will be retained by HAS and 20% will be shared with Contractor. Dollar amounts must be calculated monthly based on the energy unit cost for the particular month, multiplied by the units saved (verified and validated with International Performance Measurement and Verification Protocol – IPMV). Incentives will be paid quarterly upon the Director and/or designee's approval.

3.1.17 Experience

3.1.17.1 Describe Contractor's company experience in the services requested in this RFP. Contractor discussion should highlight the improvement in performance or efficiency that Contractor has achieved for its clients on past HVAC service contracts.

3.1.17.2 Describe how Contractor's experience will be employed to satisfy the specification requirements.

3.1.17.3 Relate Contractor's company experience and the measures taken whenever essential equipment such as chillers/boilers failed on past service contracts.

3.1.17.4 Define Contractor firm's competitive advantages for the services requested in this RFP. Clearly state how HAS would benefit from partnering with Contractor's company instead of another company.

4.0 BASIC SERVICES

4.1 (IAH) Basic Services

4.1.1 Contractor shall provide Basic Services specified in the Agreement at (IAH) twenty-four (24) hours-per-day, seven (7) days per week, 365 days per year, including holidays. Contractor shall provide on-site staffing necessary to provide specified HVAC SYSTEMS operation and maintenance services to all specified (IAH) facilities.

4.1.2 Basic Services monthly payments for (IAH) will include:

4.1.2.1 Central Plant, Old FAA Tower, Terminals A, B, C, D, FIS, and Other Remote Facilities:

4.1.2.1.1 Operation, Preventive Maintenance (PM) /Predictive Maintenance (PdM), Remedial Maintenance, and Reliability Centered Maintenance (RCM) for all HVAC SYSTEMS.

4.1.2.1.2 Remedial Maintenance (RM) for all HVAC SYSTEMS with 50 HP rating and under to include, but be not limited to, blower/fan motors, compressors, contactors, relays, etc.

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4.1.2.1.3 Maintain and operate Utilivisor Energy Monitoring System (UEMS), including all software, hardware, and upgrades.

4.1.3 The monthly lump sum payments for Basic Services encompass all overtime, after-hours labor, additional staffing, and emergency labor required to meet the Airports HVAC SYSTEMS performance standards and Duties of Contractor detailed in the Agreement.

4.1.4 Projects, Tips, and Job Order Contract (JOC) Oversight

4.1.4.1 Contractor shall assist IAH as requested, each time there is a Capital Project, Tenant Improvement Project, or a Job Order Contract (JOC), Contractor shall observe in a non-supervisory capacity, all work relating to HVAC systems. Contractor shall conduct routine a walk-through from time to time and report back to IAH any work that is not compliant to applicable codes or in the Contractor's opinion not in the best interest of IAH. At completion of project, the Contractor shall do a final walk-through with project Contractor's representative and notify IAH in writing of any deficiencies.

NOTE: Remedial maintenance (RM) performed on HVAC SYSTEMS over 50 hp will be provided under Other Works/Services.

4.2 (HOU) Basic Services

4.2.1 Contractor shall provide Basic Services specified in the Agreement at (HOU) 18-hours-per-day between the hours of 5:00 a.m. to 11:00 p.m., (7) days-per-week, 365 days per year, including holidays. Contractor shall provide on-site staffing necessary to provide specified HVAC SYSTEMS operation and maintenance services to all specified (HOU) facilities.

4.2.2 Basic Services monthly payments for (HOU) will include:

4.2.2.1 Central Plant, Main Terminal, Central Concourse, and Other Remote Facilities:

4.2.2.1.1 Operation, Preventive Maintenance (PM) /Predictive Maintenance (PdM), Remedial Maintenance, and Reliability Centered Maintenance (RCM) for all HVAC SYSTEMS.

4.2.2.1.2 Remedial Maintenance (RM) for all HVAC SYSTEMS with 50 HP rating and under to include but not be limited to blower/fan motors, compressors, contactors, relays, etc.

NOTE: Remedial maintenance (RM) performed on HVAC SYSTEMS over 50 hp will be provided under Other Works/Services.

4.2.3 At (HOU) Contractor shall provide emergency after-hour service between the hours of 11:00 p.m. and 5:00 a.m. within 1 hour of notification at the labor rates specified in Exhibit III, Pricing Form, for Other Work/Services.

4.3 (EFD) Basic Services

4.3.1 Contractor shall provide Basic Services specified in the Agreement as required at (EFD), 16 hours-per day between the hours of 6:00 a.m. to 10:00 p.m., seven (7) days-per-week, 365 days per year, including holidays. (No staffing is required, however when requested by Director and/or designee, Contractor shall provide the services within 1 hour of notification.)

4.3.2 Basic Services monthly payments for (EFD) will include:

4.3.2.1 # 510 Building, A&G Building, Control Tower, Vault, North and South Generators.

4.3.2.1.1 Preventive Maintenance (PM) /Predictive Maintenance (PdM) and Reliability Centered Maintenance (RCM) for all HVAC SYSTEMS.

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4.3.2.2 Remedial Maintenance (RM) for all HVAC SYSTEMS with 50 HP rating and under to include, but not be limited to, blower/fan motors, compressors, contactors, relays, etc.

NOTE: Remedial maintenance (RM) rated over 50 HP HVAC SYSTEMS will be provided under Other Works/Services.

4.4 All Airports (IAH), (HOU) & (EFD):

4.4.1 Contractor shall pay 100% of the total costs for all repairs and/or replacement cost should failure occur to HVAC SYSTEMS maintained by Contractor under Basic Services.

4.4.2 Repairs and/or replacement of HVAC SYSTEMS due to Contractor's failure to perform proper preventive maintenance will be the responsibility of the Contractor at no cost to HAS.

4.4.3 Contractor shall bear all costs associated with any repairs or replacement required as the result of Contractor's negligence or deliberate act.

4.5 Other Work/Services to be provided by Contractor under the Agreement includes other related required work that is beyond the scope of Basic Services.

5.0 DUTIES OF CONTRACTOR - BASIC SERVICES

5.1 Division of Responsibility

5.1.1 Contractor shall make all routine operation and maintenance decisions. Changes in operation and maintenance philosophy, schedules, and the existing preventive maintenance program must be mutually agreed to in writing by the Director and/or designee and the Contractor.

5.1.2 The Director and/or designee reserves the right to make final decisions related to HVAC SYSTEMS operation and maintenance. If the Director and/or designee choose to override the Contractor's decisions, the Director and/or designee shall inform Contractor in writing.

5.2 Direct Digital Control System (IAH), (HOU) & (EFD)

5.2.1 Contractor shall operate, maintain, and repair direct digital control systems (BACnet, Alerton, etc.) where applicable at all three Airports.

5.2.2 Contractor shall be responsible for the preventive and repair maintenance of the Building Automation System (BAS) system CPU/executive controllers, hardware and software to include system software upgrades within current generation software revision levels. Contractor shall perform preventive and repair maintenance of all ancillary components such as input-output devices, unitary controllers, and sensors.

5.2.3 Contractor shall maximize the use of the BAS to minimize the consumption of energy and to ensure environmental conditions are appropriate for the various space and areas within the airport facilities. Contractor shall use the BAS for building operational strategies, monitoring, and diagnostics. Contractor shall ensure all components – software and hardware – of the BAS are fully operational and the system is maintained in first class condition.

5.2.4 Fully qualified and certified technicians with experience on the same or similar type systems shall perform all preventive and repair maintenance on the BAS systems. All maintenance on the BAS must be accomplished in accordance with the original equipment manufacturers (OEM) specifications and recommendations as documented in the BAS Operations Manual and attendant notices and amendments. Daily operation of the system must be in accordance with the OEM operations manual and controls strategies. Routine daily operational checks and tests of the system must be performed by personnel who are trained on the operation of the system and any anomalies or malfunctions as a result of the checks/tests or experienced during normal operation must be addressed immediately. Daily operational tests and checks must be documented.

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- 5.2.5 The BAS systems are included in Contractor's Reliability Centered Maintenance methodology. The BAS preventive and repair maintenance plan must be incorporated into and administered through the MMS.
- 5.3 Water Treatment Program (IAH), (HOU) & (EFD)
- 5.3.1 Contractor shall provide the water treatment program specified in the HAS HVAC Water Treatment Manual, Volumes I, II and III, which are incorporated herein by reference. Contractor shall make necessary adjustments for minor differences between the Airports water treatment programs.
- 5.3.2 Based on Contractor's submittal of its Water Treatment Program, the Director and/or designee and Contractor shall establish a mutually agreed-upon testing schedule. Schedules are required for daily, weekly and monthly testing. Each test or function must be assigned a standard or acceptable range with acceptable maximum or minimum, plus (+) or minus (-) deviation, based on accepted industry standards for equipment, chemicals, etc., utilized in the Water Treatment Program. These tests and task schedules, once established, may be changed only upon agreement by both parties and must be supported by appropriate documentation such as published bulletins from equipment manufacturers, chemical companies, etc. that have evidence to support such recommended changes in the industry standards (Refer to Exhibit XIII, Corrosion Test Requirements).
- 5.4 Preventive Maintenance (IAH),(HOU) & (EFD)
- 5.4.1 As a part of Basic Services throughout the term of the Agreement, Contractor shall perform preventive/predictive maintenance (MMS driven schedule of planned maintenance actions) on HVAC SYSTEMS in accordance with OEM equipment manufacturer's instructions and in accordance with the best preventive maintenance industry practices for the prevention of equipment breakdowns and failures. Contractor shall develop a PM schedule so as to complete PM's on equipment within the manufactures recommendations.
- 5.4.2 The level of preventive/predictive maintenance must reduce remedial maintenance; decreased replacement cost, decreased system down time, prevent the failure of equipment before it actually occurs, preserve and improve equipment reliability by replacing worn components before they actually fail, and or immediately resolve conditions that include, but are not limited to, the following:
- 5.4.2.1 Hot calls.
 - 5.4.2.2 High humidity.
 - 5.4.2.3 Poor calibration.
 - 5.4.2.4 Faulty operators.
 - 5.4.2.5 Dirty filters.
 - 5.4.2.6 Worn belts.
 - 5.4.2.7 Dirty coils.
 - 5.4.2.8 Duct leaks to include replacement of duct installation.
 - 5.4.2.9 Water imbalances.
 - 5.4.2.10 Stuck valves.
 - 5.4.2.11 Equip. shutdown.
 - 5.4.2.12 Loose wiring.
 - 5.4.2.13 Valve leaks.
 - 5.4.2.14 Pipe rust.
 - 5.4.2.15 Excess noise.
 - 5.4.2.16 Cold calls.
 - 5.4.2.17 Poor control.

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- 5.4.2.18 Control air losses.
- 5.4.2.19 Stuck dampers.
- 5.4.2.20 No belts.
- 5.4.2.21 Loose belts.
- 5.4.2.22 Dirty fans/vents.
- 5.4.2.23 Air imbalances.
- 5.4.2.24 Poor heat transfer.
- 5.4.2.25 Plugged strainers.
- 5.4.2.26 Equipment failure.
- 5.4.2.27 False trips.
- 5.4.2.28 Fitting leaks.
- 5.4.2.29 Damaged insulation.
- 5.4.2.30 Excess vibration.
- 5.4.2.31 Degraded Painting.
- 5.4.2.32 Exercise valves.
- 5.4.2.33 Register cleaning. Contractor shall create a cleaning schedule for all terminals and out buildings, on a four month rotation. This will allow for three complete cleaning per year. To include all supply grills, return grills, and vents. This work will be done on second and third shifts.
- 5.4.2.34 Contractor is required to certify annually all backflow preventers in all mechanical rooms. Approximately thirty (30) various size ranging from ¾ in. to 6 in. To include 2 ea at the Central Plant, 4 ea. Terminal A, 4 ea at Terminal B, 4 ea at Terminal C, and 4 ea at Terminal D.
- 5.4.2.35 Thoroughly clean all Mechanical Equipment Rooms (MER's) in all facilities within the first six months of the Agreement. This includes floors, walls, mechanical and electrical equipment housings, panels, ductwork, piping, etc. Approximately 141 MER rooms for various sizes.
- 5.4.2.36 Replenishing all Charcoal/Potassium Permanente every 15 months regardless of HP rating. Approximately 2,725 cells of various sizes. Date will be decided by the Director and/or designee. *Exclude (EFD)*.
- 5.4.2.37 Install an anti-bacteria agent in the drain pans of all air handlers. (Replenish the substance as needed).
- 5.4.2.38 Drain and clean cooling towers annually of silt deposits etc. - *Exclude (EFD)*.
- 5.4.2.39 Inspect condensers on chillers annually and brush and clean tubes - *Exclude (EFD)*.
- 5.4.2.40 All Ultra violet lighting bulbs are to be changed out once per year in March. *Exclude (EFD)*. (Approximately 279 bulbs).
- 5.4.3 Contractor shall apply the same type paint system that currently exists on floors, walls, equipment, piping systems, accessories etc. in accordance with paint manufacturer's recommendations. All unpainted mechanical room floors must be painted or sealed with industrial floor sealant, within the first six months of the Agreement.
- 5.4.4 At HOU, all mechanical room floors, equipment, and piping systems, which are currently painted, must be maintained. The only wall areas to be maintained with respect to painting are located in the cooling tower and in the central plant.

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5.4.5 The following paint systems are recommended by HAS, however; Contractor must obtain the Director and/or designee's approval of the painting system to be applied prior to performing the Work.

5.4.5.1 Concrete Floors

5.4.5.1.1 Epoxy – Benjamin Moore (M36/M39) Hi-Build Gloss Coating or City approved equal.

5.4.5.1.2 Oil/Alkyd – Benjamin Moore (C112) Alkyd Porch & floor Enamel, or City approved equal.

5.4.5.2 Walls

5.4.5.2.1 Latex – Benjamin Moore (276) Latex Semi-Gloss Enamel or City approved equal.

5.4.5.2.2 Oil/Alkyd – Benjamin Moore (271) Alkyd Semi-Gloss Enamel or City approved equal.

5.4.5.3 Metal

5.4.5.3.1 Benjamin Moore (M29) Acrylic Semi-Gloss or City approved equal.

5.5 Materials

5.5.1 *Furnished Parts (IAH), (HOU) & (EFD)*

5.5.1.1 Contractor-Furnished Parts - As a part of Basic Services, Contractor shall provide all replacement parts required for HVAC SYSTEMS preventive maintenance and remedial maintenance for HVAC SYSTEMS equipment /appurtenances etc. Contractor shall develop a spare parts inventory sufficient to maintain the highest levels of performance and Service. Contractor-furnished parts may include parts recommended by the OEM or selected on the basis of the Contractor's own past experience upon approval of the Director and/or designee. If new OEM parts are available, replacement parts must be new OEM parts. Where new OEM parts are not available, Contractor may provide rebuilt OEM parts or use new parts of another manufacturer. In either case, parts must be equal or better in quality and performance than OEM parts and must be free from all defects. Contractor shall continually restock its inventory to levels that will ensure compliance with performance requirements of the Agreement.

5.5.1.2 Disposal or Used Parts - As a part of Basic Services, Contractor shall dispose of all worn/defective scrap parts and waste or hazardous materials resulting from the work under the Agreement. Handling, transport, and disposal of worn/defective scrap parts and waste or hazardous materials must be done in such a manner as to ensure the highest level of safety to the environment and to public health and in compliance with all applicable laws and governmental regulations. Contractor shall assume full responsibility and liability for and act prudently in all aspects of handling, transport, and disposal of any hazardous materials, securing all licenses and permits required by law and ensuring that any disposal facilities to which any scrap, waste, or hazardous materials may be moved are in full compliance with federal, state, and local laws and regulations. Worn or defective parts must not be stored on Airport premises. Contractor shall notify the Director and/or designee when these parts are to be removed from HAS property.

5.5.1.3 Parts Storage - The spare parts inventory is the responsibility of Contractor. Contractor shall have limited area within the Central Plants to store equipment and supplies. HAS will provide rooms IAO.0801.M and IAO.0407 in the baggage level of the FIS building.

5.6 *Tools, Instruments, and Equipment (IAH),(HOU) & (EFD)*

5.6.1 As a part of Basic Services, the Contractor shall provide all supplies, materials, equipment, instruments, and tools required for the Work at Contractor's expense. Materials and equipment shall be of the type and quality used in large-scale airport operations and shall meet the requirements specified herein. The Contractor shall provide a list of the proposed equipment, including test/calibration/diagnostic equipment, tools, and supplies etc., as part of the Agreement.

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- 5.6.2 Contractor shall have available “on-site” at all times, test/calibration equipment such as, electronic flow meters, hood vents etc. required to perform testing specified in the Agreement.
- 5.6.3 Contractor shall provide lifts to service and maintain VAV boxes, exhaust systems, etc.
- 5.6.4 Contractor must keep two (2) lifts on-site 24/7 at (IAH) and one (1) lift on-site 24/7 at HOU. Contractor must provide transport of lifts around airport complex within two (2) hours as needed.
- 5.6.5 Contractor equipment brought into the facilities must not exceed the engineered floor load capacities of the facilities. It is the Contractor's responsibility to provide properly sized/rated equipment to perform all services specified.
- 5.6.6 All Contractor-furnished tools, equipment and instruments must be removed by Contractor at the termination or expiration of the Agreement.
- 5.7 Perform Annual Shutdown (IAH) & (HOU)
- 5.7.1 As part of Basic Services and at Contractor's expense, the Contractor shall perform an annual electrical and maintenance shutdown as specified in the Agreement and detailed in Exhibit XII.
- 5.7.2 During the period between January 1st to February 28th of each year, Contractor shall schedule an annual electrical and mechanical maintenance shutdown for repair or replacement of equipment which cannot be serviced with the systems in operation and to perform certain unscheduled maintenance work within limited time. Contractor shall provide all management, planning, scheduling, logistics, and quality control.
- 5.7.3 Contractor shall also schedule and pay outside utility companies that may have to be involved in the shutdown. Annual shutdown will be at Contractor's expense including, but not limited to, spot coolers, trailer mounted DX units with generators capable of handling loads in IDF rooms, badged professional guards, electricity, gas, water, sewage, etc. Airlines, HAS and FIS locations. Six months prior to shutdown, Contractor shall prepare and present to HAS for the Director and/or designee's approval, an Activity Planning Program identifying the time schedule/ procedures for shutdown planning. Such time schedule must include start times for preparation of (1) a shutdown procedures guideline; (2) work orders for each work item to be accomplished; (3) planning sheets showing individual tasks, tools, manpower and materials required to complete a work item; (4) a maintenance priority list; (5) a shutdown materials list and manpower schedule; (6) a job plan with a related critical path network, and; (7) shutdown, work, and startup schedules.
- 5.7.4 At least two weeks prior to shutdown, Contractor shall deliver to HAS the shutdown, work, and startup schedules. Following this activity, Contractor shall schedule a mock shutdown with the shutdown team to work out any last minute problems and ensure smooth execution of the entire shutdown program. Any preliminary work that can be done prior to shutdown must be accomplished in order to expedite the shutdown work.
- 5.7.5 At (IAH), Contractor shall have a minimum of 25 spot coolers ranging in size from 1.5 thru 5 tons in various MDF/IFD rooms in the Airport. Contractor shall provide badged personnel to secure doors and verify that all persons entering have current Airport badges and security clearance. (Approximately 20 individuals).
- 5.7.6 Upon completion of the shutdown, work, and startup, Contractor shall schedule a debriefing meeting with HAS to review planning, execution and startup procedures, safety, expediting, manpower utilization, and work scheduling.
- 5.7.7 The minimum annual maintenance shutdown procedures are detailed in Exhibit XII.
- 5.8 Perform Corrosion Tests (IAH), (HOU) & (EFD)
- 5.8.1 As a part of Basic Services, Contractor shall test and monitor corrosion rates for the chilled water, condensate and condenser water systems and report findings as specified in the Agreement and detailed in Exhibit XII.

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- 5.9 Other Basic Services Tests - (IAH), (HOU) & (EFD)
- 5.9.1 Other test shall include, but not be limited to, the following test:
- 5.9.1.1 Hydro Static – perform hydro static on tubes once every 3 years on each boiler.
- 5.9.1.2 Eddy Current - perform Eddy Current Test on an alternating basis, on two (2) chillers per year.
- 5.9.1.3 Oil/Refrigerant Analysis – perform oil/refrigerant analysis, quarterly, on all chillers.
- 5.9.1.4 CFM's For Air Balance – Using the Alerton system, Contractor shall monitor HVAC systems to stay within air balance parameters. Charcoal Filters - test charcoal filters quarterly and submit the results to the Facilities Administration Sections at the Airports.
- 5.9.1.5 VFD's - calibrated and repaired as needed, regardless of horsepower rating yearly by a Certified VFD technician.
- 5.9.1.6 Legionnaire's Disease - test for the presence of Legionella and/or other potentially harmful organisms in accordance with local, state or federal agencies regulation controlling such test. The results of these tests are to be retained in accordance with the appropriate agency or current industry standards.
- 5.10 Cooling Tower Cleaning (IAH) & (HOU)
- 5.10.1 As a part of Basic Services, Contractors shall provide its approach and methodology for operating and maintaining the cooling towers at (IAH) and (HOU). Cooling towers must be cleaned once per year.
- 5.10.2 During cooling tower scheduled cleanings, Contractor shall ensure that all water and/or sediment discharged from the tower into storm or sanitary drains is in compliance with all state and federal EPA and/or TCEQ regulations controlling such discharges and any subsequent changes to these regulations that may occur during the Agreement Term. Contractor shall keep the Director and/or designee informed of such changes and the effect on the effective operation of the tower(s) involved.
- 5.10.3 Contractor shall, at its expense, remove and dispose of all sediment and materials from the cooling towers and cooling tower filtration systems, whether by approved discharge into existing sanitary sewage drains or physical removal and disposal off site at approved dumping locations. Approved as specified above means approved by the EPA and, if applicable, the TCEQ. All permits associated with the removal, discharge/disposal is at Contractor's expense.
- 5.10.4 Failure of Contractor to fully comply with those regulations established by the EPA and TCEQ for disposal of specified materials that result in fines or penalties to the City, and the payment of all such fines and penalties is the Contractor's responsibility at Contractor's expense.
- 5.11 Filter Replacement (IAH), (HOU) & (EFD)
- 5.11.1 As part of Basic Services, Contractor shall inspect and replace HVAC SYSTEMS filters in a timely manner, as required with the frequency of inspection based upon field conditions.
- 5.11.2 Contractor shall monitor all filters affected by construction projects and notify HAS of any deficiencies.
- 5.11.3 Replacement filters must meet or exceed the performance requirements of original OEM design matching the filtration requirements of specific HVAC systems and equipment.
- 5.11.4 Correct filters must ensure filtration at optimum efficiency consistent with minimum static pressure compensation.

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- 5.11.5 Filter replacement requires the use of various types of filters properly located to ensure maximum indoor air quality at an economical cost.
- 5.11.5.1 Filter Selection Performance Factors
- 5.11.5.1.1 Filter type must be consistent with efficient operation at a minimum energy penalty for static pressure compensation.
- 5.11.5.1.2 Re-circulated filtered air shall provide superior indoor air quality with minimum effect of increasing the facility ventilation load, energy consumption and operating costs.
- 5.11.5.1.3 Filter type must be appropriate for specific mixing and distribution levels.
- 5.11.5.1.4 Filter selection must conform to current ASHRAE standards and existing EPA requirements.
- 5.11.5.1.5 Whenever possible, filters must utilize existing filter frames.
- 5.11.5.1.6 Filter selection must minimize any design modifications in both equipment and duct.
- 5.11.5.1.7 Filter selection must be a pleat type with a minimum of MERV 8 rating for all 2 inch and 6 inch filters.
- 5.11.5.2 Filter Types
- 5.11.5.2.1 Charcoal Filters - Charcoal Filters are utilized at (IAH) in Terminals A, B, C, D, and FIS and require periodic removal for regeneration or replacement. Regeneration may be accomplished by delivering the filters to the Contractor's off-site sub-Contractor for such services. During the time the charcoal filters are being regenerated, Contractor shall install spare filters until the filters are cleaned, regenerated, and reinstalled. To ensure minimum equipment shutdown, Contractor shall inventory an adequate number of replacement filters for this purpose. Contractor shall be responsible, at its expense, for the maintenance, replacement, and regeneration of all such filters, both installed and in inventory for back-up. Contractor shall ensure all such filters are tested, at a minimum, every six months and changed as required by filter manufacturers. Efficiency rating of particulate filters is to be stamped on filter. Test results must be submitted to Sr. Superintendent, Facilities Administration Section.
- 5.11.5.2.2 Electronic Air Cleaners - The electronic air cleaners at (IAH) in Terminal D require periodic maintenance. Collection units must be washed in an appropriate solvent, returned, and installed. To ensure minimum equipment shutdown, Contractor shall inventory a number of replacement cells for this purpose.
- 5.11.5.2.3 Carbon and Potassium Permanganate Filter Systems – These systems must be sampled quarterly and samples sent to a laboratory to determine useful life remaining. These filters must be changed at the end of their useful life not to exceed fifteen (15) months. The replacement filter or media must be on site at replacement time. Once the projected useful life is determined for each exposure (i.e., aircraft apron level, ground terminal area, parking third level, etc.) the sampling period for laboratory can be revised, but must not exceed 75% of projected useful life.
- 5.11.5.2.4 Panel Filters, Media Filters, Roll Filters, Air Washers, etc -Various types and methods of filtration are utilized in the Airports' HVAC systems to meet specific levels of air contaminants and environmental requirements. These filter media must be maintained to provide effective air filtration and efficient air movement. Efficiency rating of particulate filters is to be stamped on filter. 2-inch pleated filters need to be changed out at .8 inches on the magnehilic, 6-inch box filters need to be changed out at 1.25 inches. NO EXCEPTIONS.
- 5.11.6 Filter Replacement Schedule - Contractor shall identify each piece of equipment that has a filtering system in place by the following parameters:
- 5.11.6.1 Equipment & Type.

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- 5.11.6.2 Filter Material.
- 5.11.6.3 Filter Size.
- 5.11.6.4 Type of Filter.
- 5.11.6.5 Location of Filter.
- 5.11.6.6 Frequency of Changing.
- 5.11.6.7 Effectiveness.
- 5.11.7 Contractor shall collect this data and incorporate it into Contractor's filter maintenance schedule as part of its normal operations and maintenance responsibilities.
- 5.12 Odor Management (IAH), (HOU) & (EFD)
- 5.12.1 As part of Basic Services throughout the Agreement Term, Contractor shall provide its approach and methodology for providing total airstreams Odor Management including all equipment, supplies, chemicals and maintenance at:
 - 5.12.1.1 (IAH) facilities including, but not limited to, Terminals A, B, C, D, FIS, ASC, HAS Administration Building, and Remote Buildings/Facilities.
 - 5.12.1.2 (HOU) facilities including, but not limited to, Main Terminal, Concourse, NR& FAA, and other remote facilities.
- 5.12.2 Odor Masking - Contractor shall continue the existing HAS Odor Masking program of evaporating odor masking materials into the airstreams, masking most odors that are present, by substituting a floral perfume. The Odor Masking Units must free all Treatment Areas from all unpleasant odors and operate at an even distribution rate for periods of at least thirty (30) days. All installed Odor Masking Units must be held in place by a holding device firmly secured to the air handler unit or adjacent fixtures: free- standing Odor Masking Units will not be allowed for safety reasons. All Odor Masking Units must be self-powered, not requiring electrical power. Contractor shall not be allowed to connect to electrical outlets. Odor masking units are located in all AHU's in terminal areas.
- 5.12.3 Storage of Contractor's Equipment and Supplies - Contractor shall store its equipment and supplies in the Central Plant area. HAS will not provide Contractor with space in the treatment areas for storage of equipment or material for airstreams odor masking. All materials and supplies must be removed from the work site upon completion or cessation of work.
- 5.12.4 Cessation of Services - Contractor shall stop providing odor masking services for any Treatment Area if requested by the Director and/or designee. Contractor may remove odor masking equipment and materials from Treatment Areas only after receiving written permission from the Director and/or designee. After removing its equipment Contractor shall ensure that any holes/openings made by Contractor (air handlers/ducts) are securely covered with patches made from materials that are similar to the materials removed and the patched area repainted to match existing surfaces.
- 5.12.5 Contractor's Response to Problems - Upon oral or written notification by HAS of any problems, Contractor shall have competent maintenance/repair personnel with appropriate equipment and parts dispatched to the problem area within one (1) hour. Service credits may be assessed for failure of the above requirement.
- 5.13 Administrative Tasks (IAH), (HOU) & (EFD)
- 5.13.1 As part of Basic Services, Contractor shall perform certain administrative tasks which include implementation, operation, and maintenance of data systems, radio communications, security and badging requirements, preparation of work orders, generating reports, attending meetings, administering a quality control program, and performing certain housekeeping duties.

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5.14 Maintenance Management System (MMS)

5.14.1 General Description

5.14.1.1 As part of Basic Services the Contractor shall implement a computer-based Maintenance, or City Approved Equal, Management System ("MMS").

5.14.1.2 Contractor shall provide and maintain all computer hardware, servers, software, cabling and infrastructure to support the MMS specified in this Section as part of Basic Services throughout the Agreement Term. Contractor shall download all essential data from the existing MMS system into new Contractor's MMS system.

5.14.1.3 Contractor shall provide all integration of data etc., from the existing MMS system to the new MMS system and operate and maintain all MMS software and equipment or equivalent replacement/upgrades, at its sole expense.

5.14.1.4 All supplies, expendables etc. required for operating the complete MMS system must be provided by Contractor at its expense. Contractor shall also bear all costs for telecommunications associated with line charges, long distance, installations, etc. required for the equipment/system operations.

5.14.1.5 At the end of the Agreement Term, the MMS computer hardware, software, cabling, and incidentals remain the property of HAS. All data, files, and records generated for all Airports on the software remains the exclusive property of HAS at the expiration or termination of the Agreement.

5.14.2 Maintenance & Operation

5.14.2.1 Maintenance and operation of the MMS to include but not limited to, systems for preventive/predictive maintenance scheduling, work order generation, inventory/cost management, manpower scheduling etc. System must be a City approved system, with approximately seven (7) ea. full-access and ten (10) ea. non-access stations. System must be web-based ("fully" accessible to HAS). Contractor shall provide all required integration including downloading existing/prior maintenance data into the new system.

5.14.2.2 At no additional cost to the City, Contractor shall install bar codes and location identifiers on the equipment, printed on "metallic paper" equipment tags, to have total linkage back to the PM system.

5.14.2.3 The City will own all the data, both in electronic format and a hard copy, and all work plans at the expiration or termination of the Agreement term. Upon termination of the Agreement, Contractor shall provide all data files in ASCII format with documented file layouts on CD-ROM.

5.14.3 System to Provide

5.14.3.1 Redundant environment to ensure that data is not lost should the primary database fail.

5.14.3.2 On call 24 hour/7-days-per-week database administration management and technical support.

5.14.3.3 24-hour archiving to remote storage as a minimum.

5.14.3.4 Unlimited server storage capacity to allow development of a wide range of statistical analysis.

5.14.3.5 Contractor shall operate a MMS work control center at the Project Managers office at IAH. The work control center will receive maintenance/repair calls, dispatch personnel, and generate work orders during contract hours at each airport.

5.14.3.6 Contractor shall provide all necessary hardware, application software, networking, management services, turnkey installation/implementation, training, acceptance testing, and on-going system support.

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- 5.14.3.7 MMS shall employ a graphical user interface (GUI) to access information on equipment, work orders, parts, and other system data. It shall provide on-line search functions; produce ad-hoc reports/lists of selected information and standard reports.
- 5.14.3.8 System shall include:
- 5.14.3.8.1 Equipment Inventory that tracks equipment and information associated with each unit, including, equipment records, history, PM, parts issued, warranties, equipment disposal.
- 5.14.3.8.2 Parts Inventory that includes, inventory management, order search, records, and history.
- 5.14.3.8.3 Equipment downtime statistics.
- 5.14.3.8.4 Preventive maintenance scheduling.
- 5.14.3.8.5 Pre-programmed and user-definable reports.
- 5.14.3.8.6 Tracking of deferred maintenance.
- 5.14.3.8.7 Enable to process work orders from a mobile device.
- 5.14.3.8.8 All status changes made digitally to a work order shall be time stamped and posted on the work order.
- 5.15 Reliability Centered Maintenance (RCM), (IAH), (HOU) & (EFD)
- 5.15.1 As a part of Basic Services throughout the term of the Agreement, the Contractor shall provide Reliability Centered Maintenance on HVAC SYSTEMS at minimum life-cycle costs.
- 5.15.2 Contractor must use the RCM to determine the most effective approach to maintenance and what must be done to ensure that the HVAC SYSTEMS continues to perform as designed by the OEM within the present operating context. RCM is an ongoing process in which the Contractor gathers data from the HVAC SYSTEMS performance and uses this data to future maintenance and/or recommend design changes.
- 5.15.3 RCM must employ Preventive Maintenance, Predictive Testing/Inspection, Reactive Maintenance, and Proactive Maintenance techniques in an integrated manner to increase the probability that the HVAC SYSTEMS will function in the required manner over their design life-cycle.
- 5.15.4 RCM requires that the Contractor make maintenance decisions based on maintenance requirements supported by sound technical and economic justification. RCM includes, but is not limited to:
- 5.15.4.1 Obtaining the highest level of performance and safety for the occupants and employees maintaining the Agreement.
- 5.15.4.2 Providing maximum functionality, availability, safety and reliability performance of HVAC SYSTEMS at the lowest cost.
- 5.15.4.3 Identifying and implementing the most cost effective actions that reduce the probability of HVAC SYSTEMS failure.
- 5.15.4.4 Provide statistical method of optimizing the preventive maintenance and predictive maintenance programs for HVAC SYSTEMS.
- 5.15.4.5 Establish and identify issues of personnel performance and make any required corrections.
- 5.15.4.6 Restore equipment to the required levels of performance when deterioration occurs, but before failure.
- 5.15.4.7 Collect the data, during the life of the Agreement and/or equipment, to change the workflow or design of the equipment in order to improve its reliability.

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- 5.15.4.8 Re-evaluate the workforce and identify efficiencies and changes in personnel for long-term productivity reductions.
- 5.15.4.9 Report monthly progress and areas of improvement in performance, personnel, equipment, and process.
- 5.16 CFC Refrigerants (IAH), (HOU) & (EFD)
- 5.16.1 Title VI of the Clean Air Act of 1990, as amended from time to time, concerns the depletion of the stratospheric ozone layer, and specifically addresses the use of CFC Refrigerants and regulations to significantly limit their production and venting.
- 5.16.2 Contractor shall comply with Title VI, Clean Air Act of 1990, together with any amendments thereto, and together with any other applicable governmental regulations related to the use of CFC Refrigerants. The City strictly prohibits the discharge of CFC Refrigerants into the atmosphere resulting from the installation, repair, maintenance, or any condition requiring the release of CFC Refrigerants from any City-owned equipment, system, etc., new or existing.
- 5.16.3 Contractor shall ensure the necessary procedures and safeguards are in place to prevent the occurrence of a CFC Refrigerant discharge into the atmosphere. Contractor shall be required at the request of HAS to remove and dispose of any refrigerants from old and unused appliances within the airport complex.
- 5.16.4 All costs associated with removal of CFC Refrigerants for the purpose of recovery, recycling, or reclamation is at Contractor's sole expense and is included in Contractor's costs for Basic Services. No additional compensation will be allowed.
- 5.16.5 The use of new (unused), recovered, recycled or reclaimed refrigerant by Contractor shall be permitted under these specifications. However, Contractor must provide a written statement indicating which it will utilize; new (unused), recovered, recycled or reclaimed and will warrant the refrigerant by any of these methods, to be within the nine (9) physical properties standards set by: ARI Standard 700-88, Table 1 - Physical Properties of Fluorocarbon Refrigerant and Maximum Contaminated Levels.
- 5.16.6 Any refrigerant that has been reclaimed must meet the then current ARI Standard 700-88 before it may be introduced into any City system. Appropriate test results must be submitted supporting the reclaimed refrigerant as being within the established maximums. Contractor shall attest to the test results as being applicable to the recycled refrigerant presented for use in the specified system in accordance with ARI Standard 700-88.
- 5.16.7 Contractor shall be responsible and wholly liable, for any and all fines, penalties, taxes, judgments, settlements or liabilities arising out of any violation or infraction of the Clean Air Act of 1990, any amendments thereto, or any other applicable governmental regulations related to the use of CFC Refrigerants.
- 5.17 Best in Practice Service (IAH), (HOU) & (EFD)
- 5.17.1 Contractor shall implement industry best practices service through use of documented policies, procedures, processes, and employee training programs.
- 5.17.2 Contractor's best in practice service shall include, but not be limited to the following:
- 5.17.2.1 A central Help Desk to provide a focal point for operations planning, scheduling, communications with Contractor's customers, and control of all contract activities; and provide an integrating function for all HVAC program activities including a priority response system and fail-safe process to ensure we respond in the allotted time.
- 5.17.2.2 Efficient deployment and optimum use of all modules and capabilities of the MMS that includes electronic documentation and reporting of all HVAC activities.

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- 5.17.2.3 An organizational model and work schedules that integrate all elements of strategic site leadership, field supervisory, customer service, and technical responsiveness.
- 5.17.2.4 A model and management approach that considers and fosters internal departmental and external process handoffs, communications, teamwork, and process improvements.
- 5.17.2.5 A reliability centered maintenance strategy that logically incorporates into a maintenance program the proper mix of reactive, preventive, predictive, and proactive maintenance practices.
- 5.17.2.6 An integrated strategic sourcing strategy that combines all elements of vendor integration, supplier diversity, e-commerce, and MRO supply chain management.
- 5.17.2.7 A world-class performance measurement program.
- 5.17.2.8 Employee-training program that ensures Contractor's employees remain highly skilled and proficient.
- 5.17.2.9 Contractor's continuous improvement that incorporates the latest advances in Quality and Customer Satisfaction programs.
- 5.17.2.10 A communications and reporting program that stresses and mandates customer and internal formal and informal communications and reporting.
- 5.17.2.11 Contractor must deploy best practices in HVAC maintenance programs that are integral to the HAS facilities which includes mission critical environments, vendor management, energy management, phase-in processes, HR support, and account planning and reporting.
- 5.18 Third Party Audits (IAH), (HOU) & (EFD)
- 5.18.1 Contractor must have a Third Party Audit of equipment specified by the Director and/or designee performed during Contractor phase out. In addition HAS may at its discretion, request a third party audit, no more than two (2) additional times during the term of the agreement. A third party audit company must be approved by the Director and/or designee.
- 5.18.2 Propose third party Audits must verify quality of Operation and Maintenance of HVAC SYSTEMS to include but not limited to:
 - 5.18.2.1 Operation & maintenance of HVAC Systems.
 - 5.18.2.2 Operation & Maintenance of DDC Systems.
 - 5.18.2.3 Preventive Maintenance.
 - 5.18.2.4 Condition of equipment.
 - 5.18.2.5 Energy Management.
 - 5.18.2.6 Water Treatment Programs.
 - 5.18.2.7 Proficiency/accuracy of Work performed by Contractor's employees.
 - 5.18.2.8 House Keeping.
- 5.18.3 The cost for third party audits will be at the Contractor's expense. An Independent and qualified third party agency must be selected by HAS/Contractor. The third party agent/agency must be accountable to HAS. All reports must be sent directly to HAS with copies to Contractor.

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- 5.18.3.1 Any deficiencies discovered by third party audits which are the responsibility of Contractor, must be rectified by the Contractor at no cost to the City. Correction/Work shall commence within thirty (30) working days of receipt of the notice of any such deficiency. Contractor shall provide the Director and/or designee with a written explanation for such deficiency in performance and a plan to prevent future such deficiencies within fifteen (15) days of receipt of such notice.
- 5.18.3.2 Failure of Contractor to correct deficiencies covered under the terms of the Agreement may be used by the Director and/or designee as grounds for termination of the Agreement within the meaning of the general provisions entitled "Default."
- 5.18.3.3 At the Director and/or designee's discretion, Contractor shall submit a revised Quality Control Program for review and approval by the Director and/or designee within thirty (30) working days. The Quality Control Program must detail how future occurrences as identified in the above audit will be prevented.

6.0 PERSONNEL REQUIREMENTS (IAH) & (HOU)

- 6.1 Staffing – The staffing listed in this specification is a “minimum staffing” only. Contractor shall provide the necessary number of personnel required to operate and maintain the HVAC systems and equipment at all Airports. All personnel assigned by Contractor to perform in accordance with the terms of the Agreement will not be assigned to any other projects or contracts managed by Contractor unless approved in writing by the Director and/or designee.
- 6.2 The Contractor’s Project Manager, Central Plant Operations Manager, and Terminal Maintenance manager shall all have e-mail capabilities. Contractor shall answer correspondence via e-mail within 24 hours.
- 6.3 Should HAS determine that the Contractor is not meeting the Agreement responsibilities with the Contractor's on-site crew, then upon the Director and/or designee’s request, Contractor shall modify/increase its on-site crew in order to meet Agreement obligations. Contractor shall increase its on-site crew at no cost to HAS as required to fulfill the requirements of the Agreement. Should the Director and/or designee determine that Contractor is not meeting Agreement responsibilities; the Director and/or designee will notify Contractor in writing. Contractor shall address and cure performance issues relating to personnel immediately. A plan to cure must be approved in writing by the Director and/or designee at his sole discretion. If Agreement responsibilities can only be met with additional permanent staff, Contractor shall pay for the cost of such additional staff.
- 6.4 Contractor shall provide a dedicated Project Manager for all of HAS, skilled and experienced in the operation and maintenance of the type of systems/equipment identified in the Agreement, who will be actively included in the system maintenance and who will serve as the main point of contact for Contractor. The Project Manager shall not be a working technician/mechanic. The Project Manager shall be on duty from 8:30 a.m. through 5:30 p.m., Monday through Friday at a minimum.
- 6.5 After execution of the Agreement the Project Manager shall attend a minimum of one meeting every month, or as requested, with the Director and/or designee to report on the status of the system/equipment and the Work/Services. Contractor shall prepare a typed agenda covering the topics to be discussed, keep minutes of the meetings in a form satisfactory to the Director and/or designee, and issue copies of the minutes to all attendees within four (4) business days of each meeting. Service credits may be assessed for failure of the above requirement.
- 6.6 The Project Manager shall be the communications contact with the Director and/or designee and shall be exclusively assigned to this project. The Project Manager shall not be reassigned from this project without prior approval of the Director and/or designee. Contractor shall provide a toll free telephone number if the Project Manager resides outside of the 713 or 281 Area Codes.
- 6.7 The Project Manager, Central Plant Operations Manager, and Terminal Maintenance Manager shall not be reassigned and or be replaced from this project without prior written approval of the Director and/or designee.

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- 6.8 Although personnel are assigned to specific airports, every employee shall be cross trained and deployed as required.
- 6.9 Contractor shall notify HAS of holiday/vacation schedules at least fourteen (14) days in advance.
- 6.10 Contractor's personnel shall include management professionals shared between IAH, HOU, and EFD.
- 6.10.1 Project Manager -(Minimum Quantity 1 ea.) – The Project Manager shall have at least 10 years of HVAC continuous maintenance project experience with verifiable HVAC management capability and experience including but not limited to:
- 6.10.1.1 Centrifugal and Reciprocal chillers 2000 tons or larger.
- 6.10.1.2 Water tube high-pressure boilers up to 600 degrees (F) @ 225 lbs. having a minimum capacity of 50,000 lbs per hour.
- 6.10.1.3 Must have a minimum of 2nd Class Stationary Engineer License.
- 6.10.1.4 Minimum of five (5) years Energy Management experience.
- 6.10.1.5 Five (5) years cost forecasting and training and managing personnel.
- 6.10.1.6 Advanced computer skills and in-depth knowledge of complex DDC control systems.
- 6.10.1.7 Alerton Control experience is a plus.
- 6.10.1.8 The Project Manager shall communicate with the Director and/or designee and shall be exclusively assigned to this project. The Project Manager shall not be reassigned from this project without prior written approval of the Director and/or designee. The Project Manager will be physically located at IAH but will operate between all facilities.
- 6.10.2 IAH Dispatch/Work Order Control – (Minimum Quantity 1 ea.) Generates work orders. Tracks and provides monthly, daily, weekly data on PM Logs and scheduling Parts Usage, Labor Hours and Warranty Reports:
- 6.10.2.1 2 to 4 years experience in Service Dispatch.
- 6.10.2.2 Excellent typing skills.
- 6.10.2.3 In-depth computer skills.
- 6.10.2.4 Proficiency with MS Office Applications and able to create and maintain spreadsheets.
- 6.10.2.5 Minimum coverage 16 hours a day, 6 days a week.
- 6.11 (IAH) Contractor's personnel shall include professionals in the following job categories:
- 6.11.1 IAH Maintenance Manager - (Minimum Quantity 1 ea.) Maintenance Manager shall have at least ten (10) years HVAC Facility Maintenance Experience in a large facility environment of at least 1.0 million sq. ft. Experience will include, but not limited to:
- 6.11.1.1 Five 5 years supervisory capacity.
- 6.11.1.2 Must have a State of Texas HVAC License Class B or higher.
- 6.11.1.3 A Universal Recovery Certificate.
- 6.11.1.4 Working knowledge of Variable Frequency Drives.

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- 6.11.1.5 Knowledge of Complex Control Systems, BACNET.
- 6.11.1.6 Native language absolutely necessary with graphic capability.
- 6.11.1.7 Good Chemical Treatment knowledge.
- 6.11.1.8 Building Pneumatics and Compressors.
- 6.11.1.9 Building Chill Water and Hot Water Pumps.
- 6.11.1.10 Good working knowledge of Heat Exchangers.
- 6.11.1.11 Must have a Basic Electrical Diagnostic Skills.
- 6.11.2 IAH Central Plant Operations Manager - (Minimum Quantity 1 ea.) –Central Plant Operations Manager must have a minimum of ten (10) years experience in a large central plant (15,000 tons or higher) and shall include, but not limited to:
 - 6.11.2.1 Maintenance and Operation of Steam Boilers 50,000 lbs or higher.
 - 6.11.2.2 Must have a Stationary Engineering License.
 - 6.11.2.3 Maintenance on Steam Turbines and Electric Driven Chillers.
 - 6.11.2.4 Five (5) years of Energy Management Experience.
 - 6.11.2.5 Operating High Pressure Boilers, 600 °F, 225 lbs.
 - 6.11.2.6 Excellent Chemical Treatment knowledge.
 - 6.11.2.7 Experience in Operative Plant Automation Systems.
 - 6.11.2.8 Shift of five (5) days a week.
- 6.11.3 IAH Terminal Maintenance Supervisor - (Minimum Quantity 1 ea.) –Must have a least five (5) years experience in Facility Maintenance, including but not limited to:
 - 6.11.3.1 Three (3) years supervisory experience.
 - 6.11.3.2 Universal Recovery Certificate.
 - 6.11.3.3 State of Texas A/C License, Class B or higher.
 - 6.11.3.4 Working knowledge of Variable Frequency Drives.
 - 6.11.3.5 Good Chemical Treatment knowledge.
 - 6.11.3.6 Good working knowledge of Building Automation System.
 - 6.11.3.7 Experience with Pneumatics Control Systems and Compressors.
 - 6.11.3.8 Building Chill Water and Hot Water Repair experience.
 - 6.11.3.9 Experience with repair and operation of Heat Exchangers.
 - 6.11.3.10 Must have Basic Electrical Diagnostic Skills.
- 6.11.4 IAH Preventive Maintenance Technician - (Minimum Quantity 8 ea.) – Preventive Maintenance Technician must have three (3) years experience in a Facility Maintenance environment. Experience includes but not limited to:
 - 6.11.4.1 Preventive Maintenance on pumps, air compressors, electrical motors/starter, AHU, Mixing Boxes, Duct Work, Bearing Replacement and Centrifugal Blowers.
 - 6.11.4.2 Staffing Requirements for PM Technicians must be - - for 24 hours a day, 7 days a week coverage.
 - 6.11.4.3 Preventive Maintenance Technician are to be assigned full time to terminals A, B, C, D, & FIS.

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- 6.11.5 IAH Preventive Maintenance Technician Helper – (Minimum Quantity 8 ea.) – Preventive Maintenance Technician Helpers must have at least one (1) year experience in a Facility Maintenance environment. Staffing requirement for Preventive Maintenance Technician Helpers must be for 24 hours a day 7 days week coverage.
- 6.11.6 IAH Electrician (Journeyman) - (Minimum Quantity 2 ea.) – Electrician Mechanic must have a minimum of three (3) years HVAC electrical experience including but not limited to:
- 6.11.6.1 Maintenance electrician and a Journeyman Electrician's license in conformance with the City of Houston Building Code.
- 6.11.6.2 Qualifications to perform most maintenance tasks on:
- 6.11.6.2.1 Variable Speed Drives.
- 6.11.6.2.2 High voltage experience.
- 6.11.6.2.3 480 V. 3 ph, switch gear.
- 6.11.6.2.4 12.47 KV systems.
- 6.11.6.2.5 Motor starters, transformers.
- 6.11.6.2.6 Buss distribution, buss-ties.
- 6.11.6.2.7 Automatic and manual transfer switches.
- 6.12 The following Controls personnel shall be OEM certified. Candidates must be approved by the Director and/or designee: (These controls personnel will be use to dispatch trouble tickets calls after reviewing the DDC system).
- 6.12.1 IAH HVAC Preventive Maintenance Cleaners – (Minimum Quantity 2 ea.) HVAC Preventive Maintenance Cleaners must have a minimum of four (4) years of Industrial or Commercial Cleaning experience. These positions will be used exclusively for duct, A/C grills and return grills. Staffing for HVAC Preventive Maintenance Cleaners will work second and third shift.
- 6.12.2 IAH DX Maintenance Mechanic – (Minimum Quantity 2 ea) DX Maintenance Mechanic must have 5 years continuous HVAC installation/repair experience including but not limited to:
- 6.12.2.1 Journeyman experience.
- 6.12.2.2 Five 5 years of repair experience in commercial air conditioning.
- 6.12.2.3 Universal Refrigerant recovery license and minimum of class B state of Texas A/C license.
- 6.12.2.4 DX Maintenance Mechanic will maintain all stand alone facilities.
- 6.12.2.4.1 **Quantities:**
- (1 ea.) – 1st. shift - 7 am to 3 pm - (Monday - Friday).
- (1 ea.) – 2nd. Shift - 3 pm to 11 pm - (Monday - Friday).
- 6.12.3 IAH Central Plant Stationary Engineer - (Minimum Quantity 9 ea. – 24/7 Coverage) Stationary Engineers must have a Stationary Engineer License, Second Grade or higher and have a minimum of five (5) years experience in Central Plant Operations, 8,000 tons of higher and 50,000 lbs of steam. At a minimum, four of these positions will be required to be First Grade. Experience including but not limited to:
- 6.12.3.1 Must have a Universal Freon Recovery Certificate.
- 6.12.3.2 Operation of large tonnage chillers of 2,000 tons or higher.
- 6.12.3.3 Operation of boilers of 40,000 lbs of steam or higher.

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- 6.12.3.4 Heat Exchangers.
- 6.12.3.5 Cooling Towers.
- 6.12.3.6 Plant Automation System.
- 6.12.3.7 Air Compressors.
- 6.12.3.8 Chemical Treatment Systems.
- 6.12.4 IAH Senior Building Controls Technician – (Controls BACnet Native) - (Minimum Quantity 1 ea.) Senior Technicians must have at least Ten (10) years continuous experience on BACNET controls, including but not limited to:
 - 6.12.4.1 Experience in the measurement, calibration, monitoring, testing and troubleshooting of electronic, pneumatic and electrical control systems.
 - 6.12.4.2 Experience must include communication; high speed modems and P.C. based HVAC networking systems.
 - 6.12.4.3 Capable of system management, repair and upgrades.
 - 6.12.4.4 Capable of creating and modifying graphics.
 - 6.12.4.5 At least three (3) years in programming.
 - 6.12.4.6 Must have completed at least 400 hours of accredited technical schooling in electronic controls.
 - 6.12.4.7 Experience must include at least four (4) years of Alerton Systems.
 - 6.12.4.8 Must have at least (3) three years in personnel management and work scheduling.
- 6.12.5 IAH Building Controls Technician - (Controls BACnet Native) (Minimum Quantity 3 ea.) – Technician shall have four (4) years continuous BAC net Controls experience including but not limited to:
 - 6.12.5.1 Capable of systems maintenance/ repair/upgrades.
 - 6.12.5.2 Have at least 200 hours of accredited technical training in electronics or computer programming.
 - 6.12.5.3 Able to work with Star-Bus, BACnet Native and other industrial languages.
- 6.12.6 IAH Plant Maintenance Mechanic - (Minimum Quantity 1 ea.) Must have at least ten (10) experience in large central plant (15,000) tons or larger. Experience to include but not limited to:
 - 6.12.6.1 Universal recovery certificate.
 - 6.12.6.2 Centrifugal chillers (2,000 tons or higher).
 - 6.12.6.3 York chiller experience a must.
 - 6.12.6.4 Steam turbine experience a must.
 - 6.12.6.5 Pneumatic air systems.
 - 6.12.6.6 Water treatment programs.
 - 6.12.6.7 Boiler experience of at least 40,000 lbs or higher.
 - 6.12.6.8 Experience on heat exchangers.
 - 6.12.6.9 Operation and maintenance on cooling towers and pump repairs.

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- 6.12.7 IAH Administrative Assistant - (Minimum Quantity 1 ea.) Must have five (5) to ten (10) year experience as an administrative and operations support assistant. Experience should include but not limited to excellent typing skills, proficiency with MS Office applications (Word, Excel, PowerPoint, Access, and Outlook). Experience with MS Excel, database, spreadsheets and software.
- 6.12.8 IAH Painter – (Minimum Quantity 1 ea.) Painting of mechanical rooms, central plant, and duct work etc.
- 6.12.9 IAH Cleaner - (Minimum Quantity 1 ea.) (Central Plant Only) Cleaning experience includes but not limited to the following:
- 6.12.9.1 Clean equipment, pads, floors, bathrooms, windows etc.
- 6.12.9.2 Wipe down piping in tunnels, equipment room.
- 6.12.9.3 Plant housekeeping, buff, and wax floors.
- 6.13 (HOU) Contractor's personnel shall include professionals in the following job categories, and is a shared resource with EFD:
- 6.13.1 HOU Operations Supervisor - (Minimum Quantity 1 ea.) The Operations Supervisor shall have at least ten (10) year's project or similar HVACM experience with verifiable management capability and experience. The Operations Supervisor will report to the Project Manager and shall not be a working technician/mechanic. The Operations Supervisor shall be on duty from 8:30 a.m. through 5:30 p.m., Monday through Friday or as dictated by job requirements.
- 6.13.2 HOU First Grade Stationary Engineer - (Minimum Quantity -2 ea.) First Class Operating Engineers shall have First Grade Stationary Engineer's Licenses in conformance with the City of Houston Codes. Minimum eight (8) years HVAC operating experience as a First Grade Stationary Engineer.
- 6.13.3 HOU Operations Engineer - (Minimum Quantity 3 ea.) Operating Engineer shall have Second Grade Stationary Engineer's Licenses in conformance with the City of Houston Codes. Minimum eight (8) years operating experience as a Second Grade Stationary Engineer.
- 6.13.4 HOU Maintenance Mechanic - (Minimum Quantity 2 ea.) Maintenance Mechanic shall have at least ten (10) years experience in preventive/repair maintenance of HVAC equipment in an environment similar to Houston, Texas. Must have certification of experience on HVAC Systems from an accredited source(s) and instructor/training back-ground.
- 6.13.5 HOU Senior Building Controls Technician - (Minimum Quantity 1 ea.) Must have at least ten (10) years continuous experience on BACNet Controls, including but not limited to:
- 6.13.5.1 Experience in the measurement, calibration, monitoring, testing and troubleshooting of electronic, pneumatic and electrical control systems.
- 6.13.5.2 Experience must include communication; high speed modems and P.C. based HVAC networking systems.
- 6.13.5.3 Capable of system management, repair and upgrades.
- 6.13.5.4 Capable of creating and modifying graphics.
- 6.13.5.5 At least three (3) years in programming.
- 6.13.5.6 Must have completed at least 400 hours of accredited technical schooling in electronic controls.
- 6.13.5.7 Experience must include at least four (4) years of Alerton Systems.
- 6.13.5.8 Must have at least three (3) years in personnel management and work scheduling.

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- 6.13.5.9 HOU Preventative Maintenance Cleaners – (Minimum Quantity 2 ea.) Must have a minimum of four (4) years of industrial cleaning experience. These positions will be used for AC and Return grills and mechanical room cleaning.
- 6.13.6 HOU DX Mechanic – (Minimum Quantity 1 ea.) Must have five (5) years of continuous HVAC installation/repair experience including but not limited to:
- 6.13.6.1 Journeyman Level Experience.
- 6.13.6.2 Minimum of two (2) years servicing and repair commercial air conditioning.
- 6.13.6.3 Universal Refrigerant Recovery License.
- 6.13.6.4 State of Texas Class B Contractor's License or higher
- 6.14 Personnel Approval (IAH) & (HOU)
- 6.14.1 The Contractor shall furnish adequate documentation of the assigned personnel's qualifications for the on-site crew and obtain written approval of acceptance of such qualifications by the Director and/or designee. Contractor may change personnel only with equally qualified personnel as approved by the Director and/or designee.
- 6.15 EFD Personnel
- 6.15.1 HVAC requirements at Ellington Airport will be handled by personnel from HOU and supported by all Contractor personnel.
- 6.15.2 Contractor personnel reporting to EFD shall spend at least ten (10) hours per week on preventive maintenance.
- 6.16 Housekeeping Duties (IAH) & (HOU) – Contractors shall provide their approach and methodology for the following housekeeping duties:
- 6.16.1 Central Plants Housekeeping Duties – As part of Basic Services
- 6.16.1.1 Contractor shall perform all work and provide all materials for the housekeeping of the total Central Plants to keep the Central Plants clean at all times including but not limited to break room, bath/restroom and upstairs control room.
- 6.16.1.2 Contractor shall maintain all parts of all panel boards that have any device serving/affecting heating, ventilating and air conditioning systems.
- 6.16.1.3 Equipment, parts, supplies, materials etc., must not be stored in any areas unless specifically authorized in writing by the Director and/or designee.
- 6.16.1.4 Central Plant Housekeeping Duties Include:
- 6.16.1.4.1 Furnishing the appropriate tools, equipment, and supplies.
- 6.16.1.4.2 Cleaning, waxing and maintenance as appropriate: all floors, walls, ceiling and glass areas on a scheduled basis, meeting or exceeding acceptable industry standards for like areas.
- 6.16.1.4.3 Maintain the condition of all ceiling, glass and wall areas to include painting as may be required to maintain a clean and neat appearance.
- 6.16.1.4.4 Clean and maintain ceiling tiles and floor tiles in offices.

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- 6.16.1.4.5 Maintain the lighting in the Central Plant to include, but not be limited to, electrical, fixtures and lamps.
- 6.16.1.4.6 Maintain the Central Plant floor areas, including cleaning and frequent painting. All colors for painting must be approved by the Director and/or designee. No refuse, trash, etc., is to be left on the Central Plant floor areas. All trash receptacles must be properly maintained and all refuse removed from the Central Plant daily.
- 6.16.1.4.7 All equipment, including piping, valves, etc., must be wiped down on a periodic basis to reduce the dust build-up on the equipment and to eliminate potential problems with equipment that may be sensitive to such dust particles.
- 6.16.1.4.8 All pipe insulation must be painted on a frequent basis as needed to ensure its protection and appearance is maintained. All motors, pumps, valves and other pieces of equipment must also be kept in a painted condition as appropriate for the equipment's use. Color coding must be utilized throughout the Central Plant for ease of identification for piping, motors, valves, etc.
- 6.16.1.4.9 Maintain all drains, grease traps, toilets, etc., in the Central Plant that become clogged. The Contractor's responsibilities extend from the Central Plant to the main sewer line.
- 6.16.2 (IAH) Tunnel Area Housekeeping Duties
- 6.16.2.1 Contractor shall ensure the utility tunnel area from the (IAH) Central Plant to Terminal B, containing the chilled and Primary Hot Water piping for the terminal facilities, is free of all trash and debris and is properly maintained on a regularly scheduled basis. All piping insulation must be coated or painted as appropriate for maintenance and appearance. Contractor shall also maintain the lighting in the (IAH) utility tunnel to include, but not be limited to, electrical, fixtures and lamps.
- 6.16.3 Terminal HVAC Equipment Rooms/Air Handler Rooms Housekeeping Duties
- 6.16.3.1 Contractor shall maintain all HVAC Equipment Rooms/Air Handler Rooms in all terminals and keep them free of all trash and debris. Rooms must be cleaned and maintained on a regularly scheduled basis. Equipment, piping, insulation, etc. must be maintained in a painted condition at all times, consistent with appropriate protection and appearance requirements. All colors for painting must be approved by HAS.
- 6.16.4 (IAH) Administration Building, ASC, SCM, & Remote Buildings/Facilities Housekeeping Duties
- 6.16.4.1 Contractor shall maintain HVAC Equipment Rooms and Areas for these facilities in a trash and debris free environment. Equipment, piping, insulation, etc. must be maintained in a painted condition at all times consistent with protection and appearance requirements. All colors for painting must be approved by HAS.
- 6.16.5 (HOU) Building at 8800 Paul B. Koonce and Remote Buildings/Facilities Housekeeping Duties
- 6.16.5.1 Contractor shall maintain HVAC Equipment Rooms and Areas for these facilities in a trash and debris free environment. Rooms and equipment must be cleaned and maintained on a regularly scheduled basis. Equipment, piping, insulation, etc. must be maintained in a painted condition at all times consistent with protection and appearance requirements. All colors for painting must be approved by Sr. Superintendent, Facilities Administration Section.
- 6.16.6 Miscellaneous DX Equipment Housekeeping Duties
- 6.16.6.1 Contractor shall maintain a clean work area and shall remove all trash and debris from the area of the equipment upon completion of any O&M or remedial service.

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6.17 Contractor shall provide, at its own expense:

6.17.1 All office furniture and incidentals required for Contractor's operation of the Central Plant Offices, including but not limited to compatible PC's, copy machine, fax machine, pagers, office supplies, and miscellaneous office equipment. Contractor shall remove all Contractor-owned furniture and equipment upon termination or expiration of the Agreement.

6.17.2 All expendable items required for the proper operation and maintenance of the facilities. Expendable items include, but are not limited to, the following: mops; floor cleaning agents; paper towels; soap; brooms; toilet tissue; paper, etc.

6.17.3 All telephone lines will be provided by the City, but all cost for use thereof will be at Contractor's expense.

6.17.4 Contractor shall, at its own expense, replace damaged or lost material, parts, equipment, etc., and repair damaged parts of the Work or facility. As part of the maintenance requirements, Contractor shall develop schedules for regular housekeeping of the central plant HVAC system equipment areas.

6.18 Uniforms - (IAH),(HOU) & (EFD)

6.18.1 Contractor's personnel shall present a clean and neat appearance. Contractor's personnel shall wear a Contractor furnished uniform with Contractor's name clearly displayed on the front of the shirt and seasonal outerwear.

6.19 Training (IAH),(HOU) & (EFD)

6.19.1 The Contractor's training program must be directed towards developing appropriate levels of expertise for skilled trades and management/ supervisory personnel in order that they have the expertise to maintain the HVAC SYSTEMS in Best-in-Practice Service. The training program must include both comprehensive training needs analysis and subsequent training by staff professionals.

6.19.2 Training needs analysis and training for skilled trades must include, but not be limited to,:

6.19.2.1 General Plant Safety.

6.19.2.2 Mathematics and Measurement.

6.19.2.3 Hand Tools & Power Tools.

6.19.2.4 Bearings & Drive Components.

6.19.2.5 Equipment Installation.

6.19.2.6 Steam Generation.

6.19.2.7 Air Conditioning & Refrigeration.

6.19.2.8 Applied Mech. Maintenance.

6.19.2.9 Pumps and Piping Systems.

6.19.2.10 Hydraulic, Pneumatic, Electric Systems.

6.19.2.11 Electric Troubleshooting.

6.19.2.12 Turbine & Boiler Operation.

6.19.2.13 Energy Conservation.

6.19.2.14 First Line Supervision.

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6.19.3 Training needs analysis and training for management/supervisory staff shall include, but not be limited to,:

6.19.3.1 Human Resource.

6.19.3.2 Plant Maintenance.

6.19.3.3 Regulatory Compliance.

6.19.4 All costs for training must be provided by Contractor at no additional compensation.

7.0 FACILITIES AND SERVICES PROVIDED BY HAS

7.1 Utilities

7.1.1 HAS will provide all electricity and natural gas required for the operation of HVAC SYSTEMS. The existing service and distribution facilities for electricity and natural gas are in place and connected to the equipment.

7.2 HAS will also provide water necessary for use in the HVAC SYSTEMS and for Contractor's employees on site.

7.3 480V Electrical Distribution - HAS' responsibility for power distribution is limited to service to the main 480-volt disconnect switches; there is currently a switch in each Terminal.

7.4 Non-Hazardous Solid Waste Pickup - HAS will provide pick-up of non-hazardous solid waste from Airport dumpsters. Disposal of hazardous, unusual (or) heavy items is the sole responsibility of Contractor. With HAS permission filters can be disposed of in HAS dumpsters.

7.5 Fire Safety Equipment - HAS will maintain existing fire extinguishers.

7.6 Office, Maintenance, and Storage Area – At (IAH) & (HOU), HAS will provide an office, maintenance, and storage areas. Contractor shall provide, at its expense, any additional required facilities. Contractor shall be responsible for all housekeeping of such facilities including, but not limited to, sweeping, washing, cleaning, waxing, painting, dusting, etc., of all areas, fixtures, and equipment.

7.7 Access to Work Areas – Subject to HAS rules and regulations, Contractor may enter and leave work sites at all reasonable times. Contractor and its employees may use the common areas and roadways at the Airport where the work sites are located. This excludes parking for Contractor's personnel and does not extend to any restricted area of the Airport, including without limitation, the AOA, which requires the Director and/or designee's prior written approval and an HAS escort. Contractor shall repair any damage it or its employees cause as a result of its use of the common areas.

8.0 COORDINATE PERFORMANCE (IAH), (HOU) & (EFD)

8.1 HAS Contact – Contractor shall coordinate its performance with such person(s) as the Director and/or designee designates in writing to Contractor. Contractor shall keep said person(s) currently advised of developments relating to the performance of the Agreement, and Contractor shall at all appropriate times advise and consult with the Director and/or designee's designee(s) as determined by the Director and/or designee.

8.2 Pre-Performance Conference - Prior to commencing performance under the Agreement, Contractor shall attend a pre-performance conference with the Director and/or designee and other representatives of HAS. The Director and/or designee shall specify the time and place of such meeting in a written notice to Contractor. Representatives of Contractor attending the pre-performance conference include, but are not limited to, the Project Manager whom Contractor has assigned to the Agreement, together with an officer of Contractor who is authorized to bind Contractor in matters relating to the pre-performance conference items listed below to the extent the Project Manager is not so authorized to bind Contractor. In the above-mentioned notice, the Director and/or designee may, in his sole discretion, further designate other representatives of Contractor who must attend the pre-performance conference and such designated representatives shall attend same. Items to be addressed at the pre-performance conference include, but are not limited to, the following:

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- 8.2.1 Phase-in and Start-up schedules.
- 8.2.2 Contract administration.
- 8.2.3 Facilities utilization.
- 8.2.4 Channels of communication.
- 8.2.5 Review of key personnel resumes and certifications.
- 8.2.6 Organization and function charts reflecting the line of management authority.
- 8.2.7 Procedures to be used to ensure Agreement requirements are met (Quality Control Program).
- 8.3 Coordination Meetings - Throughout the Agreement Term and any extensions hereto, Contractor shall meet with the Director and/or designee to identify and resolve performance issues. Meetings will be scheduled on a bi-weekly basis or as determined by the Director and/or designee. Notice of any such meeting may be given by the Director and/or designee to Contractor either orally or in writing and will designate the time, date, location, Contractor attendees, and general purpose. The Contractor's designated attendees shall be present at any such performance meeting for its duration and shall prepare a typed agenda covering the topics to be discussed; keep minutes of the meetings in a form satisfactory to the Director and/or designee; and issue copies of the minutes to all attendees within four business days of each meeting.
- 9.0 PHASE-IN/PHASE-OUT SERVICES (IAH) & (HOU)**
- 9.1 Contractor's Phase-In
- 9.1.1 Contractors shall provide its approach and methodology for the Phase-In transition in their Executive Summary submitted with its Agreement, which is incorporated herein by reference.
- 9.1.2 In order to accomplish a smooth and successful transition of operations and maintenance services and at no extra charge to the City, Contractor shall provide Phase-in services for up to thirty (30) days prior to Agreement expiration.
- 9.1.3 Contractor's Phase-In period begins upon receipt of a "Start Phase-in Notice" from the Director and/or designee and continues until receipt of "official Notice to Proceed" (Start Date of the Contract). The "Start phase-in Notice" is different than the official Notice to Proceed. Contractor shall have no responsibilities for operating or maintaining the HVAC SYSTEMS during the Phase-in period.
- 9.1.4 During the phase-in period, the successful Contractor shall have access to the facilities and areas covered by the Agreement, access to personnel, and allowed to observe all operations.
- 9.1.5 The incumbent Contractor will perform the duties and services listed in its contract during the Contractor's Phase-In period, and will be available during the phase in period to answer questions and resolve issues or any misunderstandings.
- 9.1.6 The Contractor shall provide during Phase-in period, all required deliverables including but not limited to:
 - 9.1.6.1 Review and verify Exhibit XI, HVAC Equipment List within the first five (5) Phase-In days.
 - 9.1.6.2 Arrange to have necessary supervisory, technical, and other personnel on site at the Airports to observe the operation and maintenance of the HVAC SYSTEMS.
 - 9.1.6.3 Recruit and transfer personnel, train personnel, arrange for security badging.
 - 9.1.6.4 Establish management procedures, set up records, ensure adequate parts, tools and equipment in place for systems operation and maintenance.
 - 9.1.6.5 Prepare for the assumption of technical control without disruption of operations.

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- 9.1.6.6 Develop and implement a full project schedule detailing the responsibilities of assigned personnel and submit it to the Director and/or designee for approval.
- 9.1.6.7 Coordinate Contractor's activities with Facilities Administration.
- 9.1.6.8 Final transition and training plan addressing the Contractor staffing strategies in determining the necessary staffing and supervision required for compliance with the specified services. (HAS required staffing is a minimum staffing only).
- 9.1.6.9 Emergency phone numbers and verification of cell phones.
- 9.1.6.10 Certification of all Contractor Personnel requirements and training.
- 9.1.6.11 Reporting and approach plans.
- 9.1.6.12 Inventory of supplies, materials, tools, equipment, etc., necessary to start.
- 9.1.6.13 Standard Operating Procedures (SOP).
- 9.1.6.14 Permits, licenses and certifications.
- 9.1.6.15 Security approval and access.
- 9.1.6.16 Sub-Contractor & Sub-Contractor agreements in place.
- 9.1.7 The Phase-in period will end twenty-four (24) prior to the effective contract start date shown in the official Notice to Proceed, at which time Contractor shall assume full responsibility for the operation and maintenance of the HVAC systems and equipment. The Contractor shall be prepared to perform fully all Work services upon receipt of notification to proceed document from the Director and/or designee.
- 9.1.8 Within one month after the Agreement start date, the Contractor shall certify to the Director and/or designee in writing that 100% of the Contractor's employees (fully trained and experienced) necessary for the effective and timely accomplishment of the Contractor's obligations under the Agreement are in place, and all Sub-Contractors, if any, necessary for the effective and timely performance of the Contractor's obligations under the Agreement have been engaged by the Contractor and have commenced work under their respective Subcontracts.
- 9.2 Contractor's Phase-Out
- 9.2.1 Six (6) months prior to the Agreement expiration, the Contractor shall have a third party audit of equipment identified by the Director and/or designee at Contractor's cost. The third party company must be approved by the Director and/or designee and agent/agency must be accountable to HAS. All reports must be sent to HAS with copies to the Contractor. Within these six (6) months, the Contractor shall also correct all deficiencies found by the third party auditor and certify in writing to the Director and/or designee that all deficiencies have been corrected.
- 9.2.2 In order to accomplish a smooth and successful transition of operations and maintenance services and at no extra charge to the City, the Contractor/incumbent shall provide Phase-out services for up to thirty (30) calendar days following the successor's receipt of "Start Phase-in Notice" from the Director and/or designee and continue until successor's receipt of "official Notice to Proceed". Phase-out orientation comprises a maximum of 30 working days, 8 hours per day for successor's personnel. Orientation includes, but is not limited to, system operations and maintenance procedures, record keeping, reports, and procurement procedures, etc. Contractor/incumbent shall be totally responsible for providing the services under the Agreement during its Phase-out period. Contractor shall cooperate with its successor Contractor in allowing as many personnel as practical to remain on the job in order to enhance the continuity and consistency of the services in the Agreement.

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- 9.2.3 Contractor/incumbent shall disclose necessary personnel records and allow its successor to conduct on-site interviews with its employees, provided Contractor/incumbent obtains the consent of said employees to disclose their records and to conduct such interviews and provided such disclosure and interviews are conducted in accord with all applicable laws, statutes, rules, regulations, and ordinances which have been passed, enacted or promulgated by any governmental body having jurisdiction over such matters.
- 9.2.4 The Contractor/incumbent shall provide all required deliverables including, but not limited to:
- 9.2.4.1 List of qualified employees working at the Airport.
 - 9.2.4.2 Reporting requirements.
 - 9.2.4.3 Inventory of supplies, materials, tools, and equipment.
 - 9.2.4.4 Current Standard Operating Procedures.
 - 9.2.4.5 Permits, licenses, and certifications.
 - 9.2.4.6 Deficiency status and list.
 - 9.2.4.7 Detailed transition plan.
- 9.2.5 Contractor shall turn over all HVAC SYSTEMS in First-Class Condition. Any item not operating in accordance with its required function must be repaired or replaced. Preventive maintenance work must have been performed as required per the PM schedule.
- 9.2.6 One year prior to the expiration of the Agreement Term, Contractor shall prepare and submit to the Director and/or designee a complete equipment listing of all (IAH), (HOU), and (EFD) HVAC SYSTEMS equipment. Listing must include identification number, description, location, model/serial number, area served, condition, and age of equipment.
- 9.2.7 Within sixty (60) days of the expiration of the Agreement Term, the Contractor shall perform a complete inspection of all controls and instrumentation. Any HVAC SYSTEM not in First Class Condition and/or not performing as designed by OEM within its present operating condition must be corrected.
- 9.2.8 Within thirty (30) days of the expiration of the Agreement Term, the Contractor shall provide the Director and/or designee with a complete final report on the condition of all HVAC SYSTEMS, including inspection reports, and certified statements signed by an agent of Contractor, testifying to the Best-in-Practice Service of all equipment and systems and that all HVAC SYSTEMS are in First Class Condition and performing as designed by OEM within present operating conditions.
- 9.2.9 HAS shall have the right of inspection during or after any of this work, and shall notify Contractor, within seven (7) calendar days of receipt of Contractor's certified statement, of any noted discrepancies. Contractor shall then proceed to correct any discrepancies within thirty (30) days and notify the Director and/or designee in writing upon completion of all work. Contractor shall assist HAS with any inspections required by the Director and/or designee at no additional cost to HAS.
- 9.2.10 Should Contractor fail in the performance of this portion of the Agreement, Contractor agrees that the Director and/or designee may perform such Services and deduct costs from any amount that may be due Contractor. Should costs exceed amounts due Contractor, additional costs must be paid by Contractor to City or by Contractor's performance bond surety.
- 9.2.11 At the expiration or termination of the Agreement, the Contractor shall verify to HAS that all equipment is in Best-in-Practice Service and that all HVAC SYSTEMS are in First Class Condition and performing as designed by OEM within present operating conditions. Such responsibility at Agreement expiration includes all equipment, components, software, appurtenances, controls, and instrumentation in all systems identified in The HVAC Equipment Inventory List.

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10.0 NOTICE TO PROCEED (NTP) REQUIREMENTS

10.1 Immediately after receipt of NTP, the Contractor shall implement a computer-based Maintenance Management System ("MMS"), or City Approved Equal. The system must be web-based ("fully" accessible at all times by HAS).

10.2 Within thirty (30) days after the NTP, the Contractor shall submit an emergency procedures plan for the Director and/or designee's approval. This plan shall contain procedures in advance for all foreseeable emergency situations including but not limited to, personal injuries, sickness, vandalism, intoxication, fire, smoke, power outage, etc. Emergency procedures shall include communications with the Airports and coordination with Airport emergency procedures.

10.3 Within thirty (30) days after the NTP, the Contractor shall certify to the Director and/or designee in writing that 100% of the Contractor's employee (fully trained and experienced) necessary for the effective and timely accomplishment of the Contractor's obligations under the agreement are in place, and all Sub-Contractors, if any, necessary for the effective and timely performance of the Contractor's obligations under the agreement have been engaged by the Contractor and have commenced work under their respective Sub-contracts.

10.4 Within thirty (30) days after the NTP, the Contractor shall provide training on the MMS for up to 5 HAS employees.

10.5 Within sixty (60) days after the NTP, the Contractor shall provide a list of the proposed tools, instruments, and equipment, including test/calibration/diagnostic equipment, tools, and supplies etc., to be provided and used as part of the Agreement.

10.6 Base Line Audit (IAH), (HOU) & (EFD)

10.6.1 Within ninety (90) days after the NTP, the Contractor shall conduct a **Base Line Audit** of the Airports (IAH, HOU, & EFD) major HVAC SYSTEMS, to determine that the HVAC SYSTEMS (excluding expendables) are up to standard and within manufacturer's tolerances etc.

10.6.2 The Base Line Audit will be conducted at the Contractor's expense, and the Contractor shall document its findings with photographs, listing with descriptions of equipment deficiencies, and suggested corrective measures. Deficiency list shall be approved by the Director and/or designee.

10.6.3 The Director and/or designee will respond in writing regarding the listed equipment deficiencies. The Director and/or designee will provide a list to the Contractor itemizing equipment which Director and/or designee agrees is deficient and should (or) should not be brought up to standard. The Contractor shall maintain items not to be brought up to standard at equal or better condition until the end of the Agreement.

10.7 Within ninety (90) days from the NTP, the Contractor shall provide to the Director and/or designee its training program.

10.8 Within one hundred and eighty (180) days from NTP, the Contractor shall identify and install odor control to all AHU rated 7.5 hp and higher without odor control in place.

11.0 TELEPHONE SERVICE

11.1 Contractor shall pay for any and all costs associated with the use of HAS-furnished telephone line(s), including but not limited to any and all charges for long distance service.

12.0 SECURITY AND BADGING (IAH), (HOU) & (EFD)

12.1 Contractor shall comply with all applicable Federal rules governing security at the Airport, as may be amended from time to time.

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- 12.1.1 All on-site personnel of Contractor, including sub-Contractor's, who perform services under the Agreement, are required to undergo a fingerprint-based criminal history records check. Fingerprints are collected at the Airport Badging Office and submitted electronically for investigation. The Project Manager shall have additional training at HAS to approve badging requests for Contractor personnel.
- 12.2 Contractor shall obtain HAS security badges for its personnel performing services on-site, including its sub-Contractor's personnel. On-site personnel shall wear identification badges at all times while on Airport property. The cost of badges, which is subject to change, is currently \$55.00 each at (IAH)/ (HOU) and \$16.00 each at (EFD). Costs for the fingerprint-based criminal history records check are reflected in the cost of the badges. Contractor is responsible for the cost of badges, including replacements thereof. Contractor personnel losing badges will be charged for replacement badges at the then current rate. Badge yearly renewal cost is \$16.00.
- 12.3 Contractor acknowledges that fines or penalties associated with non-compliance with security regulations must be reimbursed to HAS.

12.4 *Airport Customs Security Area Bond:*

If required, Contractor shall obtain an Airport Customs Security Area Bond in order to have access to the Federal Inspection Station (FIS) located at George Bush Intercontinental Airport (IAH). The bond amount is determined by calculating \$1,000.00 times the number of employees needed to provide the service.

13.0 INVOICING

- 13.1 Contractor shall submit its invoices for work completed on a form(s) approved in advance by the Director and/or designee; invoices must be accompanied by support documents requested by the Director and/or designee.
- 13.2 Each invoice submitted must be in duplicate and each copy must include required attachments. The invoice must be identified by the Agreement name and Agreement number. All invoices are to be delivered or mailed to the following location:

City of Houston
Houston Airport System
Finance Division/Accounts Payable
P.O. Box 60106
Houston, Texas 77205-0106

13.3 *Invoicing:*

- 13.3.1 The Houston Airport system will accept invoices submitted electronically along with required support information; such as Outline Agreement Number(s), Service Release Orders (SRO) Numbers, and etc. Each invoice should be in a TIFF format. Multiple invoices can be submitted in a single email.
- 13.3.2 Requirements are as follows:
- 13.3.2.1 Submit invoices in "TIFF" format
- 13.3.2.2 Submit to has.accountspayable@houstontx.gov
- 13.4 Invoices submitted for services performed as the result of change orders require copies of the applicable change order are attached to the original and each of the two (2) invoice copies.
- 13.5 Invoices submitted for services performed as the result of Other Work/Services require a copy of the Director and/or designee's written request to be attached to the original and each of the two (2) invoice copies.

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14.0 TRANSPORTATION AND PARKING (IAH), (HOU) & (EFD)

14.1 Contractor shall park its vehicles in areas designated by Director and/or designee at its own cost. All transportation activities of Contractor or its sub-Contractors necessary to perform under the Agreement must be provided by Contractor.

14.2 All of Contractor's vehicles, including those owned by its employees and sub-Contractors, must be clearly marked with identification indicating Contractor's name. Such identification must be placed on both sides of each vehicle and may be removable, e.g. magnetic.

15.0 CONTRACTOR'S RADIO COMMUNICATIONS REQUIREMENTS (IAH), (HOU) & (EFD)

15.1 HAS will provide the Contractor with two handheld radios equipped with batteries and chargers for Contractor's use on this contract. The radios will be programmed to transmit and receive on Harris County trunked frequencies. Upon cancellation or termination of Agreement, the Contractor shall return all radios provided to HAS.

15.1.1 Contractor shall operate the radios within protocols established by HAS and the FAA.

15.1.2 Contractor shall be assessed a one-time service credit in the amount of \$10.00 each, for initial programming of each radio.

15.1.3 Contractor will be assessed a monthly service credit in the amount of \$10.00 each, for maintenance of each radio. Contractor shall return radios requiring maintenance to HAS.

15.1.4 Contractor shall pay for time and materials to repair any damaged radio(s) and full replacement costs for any radio(s) that are lost.

15.1.5 Upon termination of the Agreement, the radios remain the property of HAS.

16.0 SAFETY (IAH), (HOU) & (EFD)

16.1 Contractor shall not require any person to work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to their health or safety. Contractor shall comply with all provisions of the Occupational Health and Safety Act (OSHA).

16.2 Contractor shall be completely familiar with, and shall enforce all City, State of Texas and Federal OSHA regulations and requirements as applicable, including, but not limited to, the following:

16.2.1 Contractor personnel must wear applicable personal protection equipment at all times.

16.2.2 Contractor personnel operating equipment or handling materials must be fully trained in the safe operation of the equipment or materials.

16.2.3 Contractor personnel shall follow and apply safety practices prevailing in their applicable industry.

16.3 Contractor shall develop, implement and maintain an on-going safety program concerned with equipment, maintenance work, and related procedures. Contractor shall post safety warnings on equipment as necessary to ensure safe operations. Contractor shall not operate, install, or test any equipment in an unsafe condition. Contractor shall properly operate and maintain all safety equipment associated with its services.

16.4 When Contractor becomes aware of a hazardous or potentially hazardous condition during the course of performing services, Contractor shall verbally notify Director and/or designee. Contractor shall immediately make such notification upon detection of the condition. Contractor shall detail conditions along with non-hazardous conditions and recommendations in its quarterly report.

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17.0 MATERIAL SAFETY DATA SHEETS (MSDS) (IAH), (HOU) & (EFD)

17.1 The Contractor shall furnish to each Facility Superintendent all MSDS, (OSHA Form 174), for each product used in each facility. A Material Safety Data Sheet must accompany each product shipment to the facilities.

18.0 CONTROL OF PREMISES (IAH), (HOU) & (EFD)

18.1 Access to the HVAC SYSTEMS

18.1.1 Contractor equipment brought into the facilities must not exceed the engineered floor load capacities of the facilities. Operations and maintenance areas must be limited to Contractor's personnel, HAS employees, and certain other individuals authorized by the Director and/or designee. Access to the premises must be strictly controlled and Contractor shall keep a record of all keys distributed to its personnel. Officers, employees or agents of Contractor shall never enter restricted or operational areas of the Airport without the express permission of the Director and/or designee or any other governmental bodies having jurisdiction, and Contractor hereby assumes full liability arising from any such unauthorized incursions.

18.1.1.1 All equipment PM sheets, schedules, and other records must be available at Contractor's Project Manager's office for inspection by HAS personnel. All documents generated or obtained by Contractor that pertain to the operation and maintenance of the HVAC systems and equipment must become HAS property upon contract completion.

19.0 INCLUSION/EXCLUSION

19.1 Adjustment to the Fee Schedule shall be allowed only when the cumulative change is greater than 10% of the contract value of the total basic services at all three airports with the Contractor being responsible to monitor and value the changes to determine when the threshold is met. Historically the cost has been less than ½ percent the value of total basic services at all three airports. Contractor shall use the attached Inclusion/Exclusion Form to perform the contract evaluation.

19.2 Contractor Valuation Process

19.2.1 The MMS will establish the required Preventive Maintenance / Corrective Maintenance baseline labor hours by type of equipment and approved by the Director and/or designee.

19.2.2 If no MMS historical data is available, the accepted source is Facilities Maintenance & Repair Cost Data, 16th Edition 2009 R.S. Means Company or later version and/or another HAS approved source.

19.2.3 Baseline staff hours will be based on productive hours. Assuming 2080 total hours per year productive hours equal 2080 with actual tool time at 65% or 1352 hours per year.

19.2.4 Additions or deletions of equipment that equal labor at or above the trigger point of 1352 hour / year indicating that a fulltime equivalent will be required or in excess of service delivery requirement.

19.2.5 Contractor Labor cost will be adjusted based on actual labor cost (addition/deletion) x 1.35%.

19.2.6 Additions: Contractor shall accurately document materials used and project costs for a 12 month period following additions, to be verified by HAS. The contract amount will be adjusted for the remainder of the contract term following the verification by HAS.

19.2.7 Deletions: Contract will be decreased by an amount equal to the total cost expended by the Contractor for the prior 12 months or applicable measurable period.

19.2.8 In the case of a large addition or deletion of 250,000 square feet of conditioned space both parties agree to negotiate cost based on the above criteria.

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20.0 SERVICE CREDITS

At the Director and/or designee's discretion, the following Service Credits may be applied. Multiple Service Credits may be applicable.

Performance	Criteria	Service Credit
Failure to maintain critical environmental conditions per contract as a direct result of Contractor's failure to perform critical tasks	Durations over 2 hours periods	\$1,000.00 credit for every 12 hour period temperatures and or humidity are outside of acceptable limits
Continual failure to maintain environmental conditions as defined in the contract	Failure to maintain temperatures in a specific area for more than 3 occurrences within a 90 day period (call backs)	\$1,000.00 per occurrence
Failure to Provide Agreements for other work services (OSR) in the time period promised	Upon requests made by HAS for OSR pricing Agreements, Contractor and HAS define a reasonable time period in which the response will be delivered to HAS	Contractors failure to meet the time frame or receive an extension from HAS Contractor shall credit \$100.00 per 24 hours.
Staff positions not filled	Contractor fails to fill a position for 2 consecutive weeks	Position pay grade times 1.47 for the total shift hours the position is not staffed
Failure to meet response times	Contractor fails to respond allocated manpower to calls for service defined in the contract	\$100.00 per occurrence
Failure to perform preventative maintenance tasks on equipment	Contractor fails to complete PM's for more than 30 days over schedule	\$1,000.00 per PM violation
Failure to provide operational reports	Contractor fails to provide reports/ accurate operational data to HAS within defined reporting times	\$500.00 per occurrence plus \$100.00 per day until report is provided

20.1 Notwithstanding the foregoing, the Director and/or designee shall not be entitled to assess Service Credits under any of the following circumstances:

20.1.1 Force Majeure.

20.1.2 Annual shutdowns or upgrades/modifications set forth in the Agreement.

20.1.3 Third-party damage (does not apply to Contractor's sub-Contractor).

20.1.4 Damage to HVAC Systems or equipment that is caused solely by the acts of the City.

20.1.5 Unplanned material changes to energy requirements not caused by Contractor. However, this exception is available to Contractor only at the sole discretion of the Director and/or designee.

20.2 Remedies

20.2.1 Assessment of Service Credits must never be construed as an exclusive remedy for any other damage incurred as the result of the breach of any other covenants, conditions, or obligations contained in the Agreement, and the City will always have the right to avail itself of other remedies available to it in law or equity.

21.0 RECORDS AND REPORTS (IAH), (HOU) & (EFD)

21.1 As part of Basic Services, Contractor shall develop and maintain daily logs, weekly, monthly, and annual reports for operation and maintenance of HVAC systems and equipment. The logs shall provide a record of all pertinent operating data and maintenance performed. Contractor's record keeping system is subject to approval by the Director and/or designee, and all records required may be inspected by the Director and/or designee at any time during normal business hours. The Contractor shall provide all maintenance records and history with one hard copy and three Compact Discs (CD's) to the Sr. Superintendent, Facilities Administration Section. Upon expiration or termination of the Agreement, all manual and automated records (including software data) produced and maintained on file become the property of HAS; Contractor shall submit all maintenance records to Sr. Superintendent, Facilities Administration Section. Contractor may retain all original employee and accounting files, but shall furnish a copy of the accounting files to Sr. Superintendent, Facilities Administration Section upon request.

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- 21.1.1 Reports must be signed by the Project Manager. Such signature is certification that all reports and information are truthful and accurate. Falsification of any records is grounds for termination of the Agreement.
- 21.1.2 Contractor's Logs provided to the Director and/or designee must document all pertinent operating data and maintenance performed by Contractor or its sub-Contractors under the Agreement. Contractor shall describe any event or condition not readily discernible from recorded data in a "Remarks" section.
- 21.1.3 Contractor shall develop and maintain on site records, including but not limited to, Agreement documents, inventory records, accounting and procurement records, system documents and manuals and any other documents necessary to meet reporting requirements or requests by the Director and/or designee.
- 21.2 Daily Records and Reports
- 21.2.1 Contractor shall develop and maintain an automated Daily Work Log to record HVAC systems and equipment daily operation and maintenance events and to produce a Daily Work Log Summary. The Daily Work Log must record all pertinent daily operating and maintenance data, including but not limited to date, time, service performed, status or results, and person who performed service or inspection. Relevant events or conditions not readily discernible from the recorded data must be described in a "Remarks" section. The Daily Work Log and Summary must be in a format acceptable to HAS. Contractor shall provide a daily log of parts/materials used.
- 21.3 Weekly Records and Reports
- 21.3.1 Contractor shall provide weekly reports to include but not limited to:
- 21.3.1.1 Boiler Flue Gas Analysis Report.
- 21.3.1.2 Equipment Status for Chiller Capacities and Redundancies.
- 21.3.1.3 Daily Chiller Water Tonnage Report.
- 21.3.1.4 Cooling Tower, Make Up Water, and Blow Down Reports.
- 21.4 Monthly Records and Reports
- 21.4.1 Contractor shall provide a monthly Operation and Maintenance report. The report must provide essentially the following information in a format acceptable to HAS. The Monthly Operation & Maintenance Report must include, but is not limited to:
- 21.4.1.1 Daily Summary Maintenance Log Summary Report.
- 21.4.1.2 Status of Systems and Equipment Report.
- 21.4.1.3 Parts/Material Usage Report.
- 21.4.1.4 Summary of Maintenance Work Performed.
- 21.4.1.5 The results of inspections and tests conducted (including but not limited to water treatment, legionnaire's disease tests).
- 21.4.1.6 Reliability Centered Maintenance Report.
- 21.4.1.7 Two (2) month schedule of upcoming inspections or tests, and projection of major equipment shutdowns required for maintenance.
- 21.4.1.8 List of Equipment Breakdowns and Repair Time Report.
- 21.4.1.9 Statistical Operating Data Report (including, but not limited to, equipment on-line/standby report).
- 21.4.1.10 Summary of Cooling Tower, Make-up Water, and Blow Down Reports.
- 21.4.1.11 Warranty Report.

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- 21.4.1.12 Employee Roster Report.
- 21.4.1.13 Other reports (including, but not limited to, filter replacement; odor management/control).
- 21.4.2 Monthly maintenance reports must be submitted to the Director and/or designee by the fifteenth (15th) day following the reported month. Maintenance reports are to be submitted on CD's, with one hard copy delivered to the following HAS sections; Sr. Contract Administrator, SCM Section, and the appropriate Airport Sr. Superintendent, Facilities Administration Section.
- 21.5 Annual Reports
- 21.5.1 Contractor shall provide an annual shutdown report. The Annual Summary Report must be submitted within 30 days after the shutdown work is completed.
- 21.6 Report Clarifications
- 21.6.1 Daily Work Log – Contractor shall submit a daily work log depicting the work completed or performed for each day. Work log summaries must also be included in monthly reports.
- 21.6.2 Parts/Materials Usage - Contractor shall submit daily reports depicting parts/materials usage each day. Contractor shall also submit a monthly Parts/Materials Usage report indicating current materials, stock levels, and required restocking over the past month.
- 21.6.3 Water Treatment Records - Contractor shall maintain daily records of chemical analysis. At the end of each week, Contractor shall submit a summary of chemical treatment work performed and the effectiveness of the water treatment program. Contractor shall include any recommendations for improving the program, if any, as part of this report.
- 21.6.4 Central Plant On-Line/Standby Reports - Contractor shall provide as part of its monthly report the actual hours of utilization for all major equipment in the Central Plant.
- 21.6.5 Fuel/Air Ratio (Excess Air) in Boiler Firing Report/Flue Gas Analysis – Contractor shall maintain a weekly record of flue gas analysis for oxygen to determine "excess air," incomplete combustion, and NOX emissions. At the end of each week, Contractor shall submit a summary of boiler firing effectiveness and include any recommendations for improving the program, if any, as part of this report.
- 21.6.6 Legionnaire's Disease Test Report - Contractor shall report and submit all Legionnaire's Disease test results to the Director and/or designee and maintain a permanent record in the HVAC Central Plant files for future reference.
- 21.6.7 Wastewater Report - Due to the loss of water that occurs through evaporation at the cooling towers, additional water must be added to the condensed water system as necessary to maintain the water volume for efficient operation of the HVAC System. It is also necessary to release water into the City's sewage system to control the amount of total dissolved solids in the system. This results in greater amounts of water being utilized that are not in direct proportion to the amount being released into the City sewage system.
- 21.6.7.1 HAS pays a sewage fee based on the amount of water it utilizes unless it provides a method to show that all the water it utilizes does not end up as discharge into the sewage system. Therefore, make-up and blow-down meters have been installed to ensure the HAS does not pay a sewage fee for water that is evaporated during the heating and cooling process.
- 21.6.7.1.1 Contractor shall read the make-up meters and blow-down meters on (IAH) and (HOU) cooling towers on the last day of each calendar month and deliver the data to the City of Houston, Water Customer Service, no later than the fifth (5th) day of the following calendar month.

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- 21.6.7.1.2 The Director and/or designee will provide Contractor with a form to be used to record the meter readings. Contractor shall be fully responsible for obtaining the required meter readings, completing the form in its entirety and delivering it to the address specified within the time periods specified. Contractor shall keep one copy in its contract files and one copy forwarded to Facilities Administration for its records. A delivery receipt for this form from the City must be obtained and attached.
- 21.6.8 Employee Roster Report - Contractor shall maintain a weekly record of employee attendance records by date, title, attendance etc. and submit to HAS monthly to the extent allowed by law.
- 21.6.9 Odor Management/Control Records -Material Safety Data Sheets (MSDS) forms are required for all chemicals utilized and must meet Federal, State and Local laws regarding the movement of chemicals through air handling systems.
- 21.6.10 Hazardous Chemical Records – Contractor and its Sub-Contractor shall provide a completed Material Safety Data Sheet (MSDS) as required by applicable laws for each and every hazardous chemical as used in performance of the work or stored on City property.
- 21.6.10.1 Any material declared as hazardous by the Texas Department of Health, Austin, the EPA or the TCEQ requires an MSDS. That Department also will provide standard MSDS forms upon request.
- 21.6.10.2 Contractor's Project Manager shall maintain the completed forms. All hazardous chemical records must be made available to the Director and/or designee for periodic review.
- 21.6.11 Annual Shutdown Report - Contractor shall prepare a formal "Annual Shutdown Report" and present it to the Director and/or designee within 30 days after the shutdown work is completed. This report must summarize preplanning, execution, startup and debriefing activities and resulting recommendations and follow-up assignments.
- 21.6.11.1 Contractor shall provide a certified report from the testing lab for tests performed on PCB Transformers indicating which tests were performed, the level of PCB contamination, and recommended action required, if any.
- 21.6.11.2 This report will be submitted as part of the annual shutdown report as specified elsewhere herein.
- 21.6.12 Hydrostatic Test Reports - provide hydrostatic reports every 3 years and when boiler tubes are replaced.
- 21.6.13 Warranty Report
- 21.6.13.1 As part of Basic Services throughout the Agreement Term, Contractor shall administer warranties on systems and equipment as may be applicable from time to time. Contractor shall maintain warranty records and submit documentation and follow-up procedures on all warranty work. Contractor shall enforce all warranties on behalf of HAS. Contractor shall provide service regardless of whether equipment is wholly or partially under warranty. Warranty data must be maintained in a format acceptable to the Director and/or designee and current data must be available for inspection by the Director and/or designee at his/her discretion.

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22.0 OTHER WORK/SERVICES (IAH), (HOU) & (EFD)

22.1 General

Within the general scope of the Agreement, Other Work/Services may be required to meet desired conditions and/or services not covered in Basic Services. Contractor shall perform Other Work/Services in accordance with all provisions of the Agreement plus any special provisions issued with authorization for work, so long as the specific provisions are consistent with, and related to the scope of the Agreement. With the exception of Emergency Service Requests or Urgent Service Requests, where a request may be verbal and followed immediately in writing, all requests for Other Work/Services will be in writing in the form of an Other Service Request (OSR) provided by the Director and/or designee and signed by the Director and/or designee or his/her designated representative. Contractor shall perform Other Work/Services to the same standards identified for Basic Services.

22.2 Performing Other Work/Services

22.2.1 Other Work/Services shall be performed in accordance with the Agreement.

22.2.1.1 Other Work/Services shall be performed in accordance with all provisions of this Proposal and any special provisions issued with the Other Service/Request (OSR).

22.2.1.2 Before issuing an OSR, the Director and/or designee will first issue a written notice to the Contractor detailing the specific OSR to be performed by the Contractor.

22.2.1.3 In response to any such written notice, the Contractor shall provide the Director and/or designee with a written proposal within three (3) business days of receipt of OSR. Contractor must include a description of the services to be performed, applicable labor rates, estimated labor hours, performance schedule, total estimated cost, and other requirements set forth in the written notice to the Contractor.

22.2.1.4 Contractor shall furnish all materials, labor, tools, equipment, transportation, and incidentals for accomplishing the described services or as otherwise specified by Director and/or designee. Director and/or designee will not approve an OSR without a specified completion date. Contractor shall complete all such Other Work/Services within the time specified in the OSR. Contractor can request in writing an extension to the completion date. However, Director and/or designee may or may not allow the extension. Director and/or designee's decision is final.

22.2.1.5 Upon receipt of the Contractor's Proposal, the Director and/or designee has the option to reject the Contractor's Proposal, require resubmission with revised or additional information, or issue an OSR. Should the Director and/or designee reject the Contractor's Proposal and require resubmission, the Contractor shall resubmit a modified Proposal within three (3) business days of the rejection.

22.2.1.6 Upon approval by Director and/or designee of the modified proposal, an OSR will be issued. Contractor shall commence work as stated in the OSR. Contractor shall diligently work to completion in accordance with the terms and conditions of this Agreement, and the approved OSR.

22.2.1.7 Labor cost must not exceed the rate stated in the "Price Sheet". Labor is inclusive of supervision, tools, and expendables.

22.2.1.8 Prices for equipment, parts, supplies, and sub-contracted work, which may be required for authorized Other/Work Services, shall be the Contractor's actual cost plus percent (%) mark-up proposed on the "Price Sheet" (*Mark-up excludes Freight and Travel*). Copies of invoices from the Contractor's suppliers for these items must be submitted with Contractor's invoices at the time of submittal to the City for payment. The mark-up percentages stated shall not increase during the term of this Proposal. The quantity of equipment, parts, and supplies will depend on the needs of the City.

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- 22.2.1.9 Over \$3,000.00, the Contractor shall obtain three (3) itemized bids/estimates within three (3) business days from separate/different vendors/ suppliers for the required equipment, parts, supplies, and subcontracted works. Contractor shall submit the bids/estimates to Director and/or designee and obtain written approval from Director and/or designee before proceeding with the work. Any bids/estimates obtained from vendors/suppliers affiliated with the Contractor shall have written approval from the Director and/or designee. Contractor shall be compensated at "Bid Cost" plus percent (%) mark-up proposed on the Price Sheet/Fee Schedule.
- 22.2.1.10 Under \$3,000.00, the Contractor shall obtain one (1) itemized bid/estimate from vendor/supplier within three (3) business days, for the required equipment, parts, supplies, and subcontracted works. Contractor shall submit the bid/estimate to the Director and/or designee and obtain written approval from the Director and/or designee before proceeding with the Work. Any bids/estimates obtained from vendors/suppliers affiliated with the Contractor shall have written approval from the Director and/or designee. Contractor shall be compensated at "Bid Cost" plus percent (%) mark-up proposed on the Price Sheet/Fee Schedule.
- 22.2.1.11 When Other Work/Services have been completed, a copy of the approved OSR must accompany the monthly invoice.
- 22.2.1.12 While performing work on any OSR, if hidden damage or additional cost is discovered, Contractor shall notify the Director and/or designee immediately. After determining the extent of hidden damage a supplemental OSR must be submitted.
- 22.2.1.13 Contractor shall submit to Director and/or designee, copies of original purchase orders and invoices evidencing Contractor's acquisition costs.
- 22.2.1.14 In the case of emergency service, the Contractor may perform Other Work/Services upon the verbal approval of the Director and/or designee. However, during the next business day, the Director and/or designee will submit a written Emergency Service Request to the Contractor.
- 22.2.1.15 If it is determined this Scope of Work should be covered under Basic Services, any amount paid to the Contractor under Other/Services Request will be reimbursed to the City by the Contractor. The City does not waive any of its rights and remedies whether by statute, at law, in equity, or under this Contract.
- 22.2.1.16 If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, the Contractor shall not receive additional compensation for their labor.
- 22.3 Other Work/Services may include, but are not limited to the following categories: (IAH),(HOU)&(EFD)
- 22.3.1 Remedial Maintenance on HVAC SYSTEMS, over 50HP.
- 22.3.2 Emergency After-Hours Services (HOU) & (EFD) only.
- 22.3.3 Systems and Equipment Upgrades/Modifications.
- 22.3.4 Special Energy Retrofits.
- 22.3.5 Hazard Materials Testing and Removal.
- 22.3.6 Certain O&M Service Requirements.
- 22.3.7 Visual inspection and testing of (IAH) fire dampers located in ductwork.
- 22.3.8 Air quality studies.
- 22.3.9 Duct cleaning/dusting of all tubular ductwork in Terminal D (Level 88) at the request of HAS officials and with a minimum scheduled cleaning of once per year. This work must be done as to not interfere with the traveling public, i.e. 11:00 p.m. to 6:00 a.m.

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- 22.3.10 Equipment with a value greater than \$10,001, which has met or exceed its useful life as defined by Facilities Maintenance & Repair Cost Data, 16th Edition 2009 by R. S. Means Company or later version and/or another HAS approved source, can be replaced, repaired, or rebuilt at the discretion of the Director and/or designee. Equipment under \$10,000.00 and under 50HP shall be replaced under Basic Services.
- 22.3.11 Equipment on the HAS accepted deficiency list shall be replaced or repaired at the discretion of the Director and/or designee provided the current Contractor did not contribute to its placement on the list.
- 22.4 Use of On-Site - Extra Work
- 22.4.1 When the Contractor's on-site crew performs extra or changed work covered by Change Orders or Other Work/Services during normal hours, Contractor shall not be relieved of any responsibilities for operation, performing preventive and remedial maintenance, or replacing equipment as defined in the Agreement unless otherwise authorized by the Director and/or designee.
- 22.5 Remedial Maintenance (Other Works/Services) (IAH), (HOU) & (EFD)
- 22.5.1 When requested by Director and/or designee, Contractor shall provide Remedial Maintenance (RM) services on HVAC SYSTEMS rated above 50 HP at the labor and material rates specified in Exhibit III, Price Sheet/Fee Schedule, for Other Work/Services.
- 22.5.2 All chillers in the Central Plant, including associated equipment located on the chiller and chiller floor pad shall be included in the 50 hp provisions, to include, but not limited to: compressors, turbines, Kimbel valves, oil pumps, oil coolers, actuators, seals, bearings and all control devices, and Freon replacement and or additions. Specific exceptions to this, routine preventive maintenance requirements, including Eddy Current test, condenser and cooler tube cleaning, epoxy painting, vessel gaskets, oil change outs, oil filtration, oil analysis and Freon clean up due to contamination. Additional exceptions shall be all electrical control and supply devices not mounted on chiller pad. Including but not limited to: motor starters, control panels, breakers, monitors, computer control panels, and all UPS's and program battery backups. Also excepted shall be steam piping, water piping, valves, and all flow sensors up or down stream of chiller pad.
- 22.5.3 COOLING TOWERS - The 50 hp provisions shall only include all condenser pumps and motors, Fans, Fan Hub assemblies, Gear boxes, drive shafts and Fan motors.
- 22.5.4 Exceptions to this shall be, but not limited to: Drain valves, fill valves, [auto & manual] Tower media side panels, all control sensors, electrical breakers, motor starters, chemical treatment systems and all chemical pumps.
- 22.5.5 REMOTE BUILDINGS - The 50 hp provision shall apply to all equipment design as a package unit with a rating of 50 tons of cooling or 50 electrical hp. or higher, included but not limited to, all controls, breakers, compressors, condenser fan motors and other equipment within the unit. Exceptions shall be all connected piping, controls, pumps, chemical treatment devices, disconnects, and Freon.
- 22.5.6 TERMINALS - 50 hp. provision shall include motors and attached pumps, mechanical drives, all AHU motors 50 hp or larger. Exceptions to this shall include controls, belts heat exchangers, VFD's and piping.
- 22.5.7 IAH BOILERS – All the following boilers: Boilers 4 & 5 at the central plant, boilers 1 & 2 at the Administration building, and boilers 1 & 2 at Supply Chain Management building will be under basic services. Services to include, but not limited to, inspections, permits & fees, flow meters, gas meters, boiler mounted controls, chemical treatment, and inspection required repairs. Specifically excepted are feed water pumps & motors; heat exchangers and circulating pumps; polisher system; polisher pumps and motors; all piping and steam apparatus downstream from the boilers.
- 22.5.8 Contractor shall repair/restore HVAC equipment/systems performance to designed function with parts, materials, and labor. RM includes repairs and replacement of related components, parts, and appurtenances that have failed, no longer perform reliably, or have worn beyond safe tolerances.

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- 22.5.9 The Director and/or designee will provide Contractor with instructions and schedules pertaining to the RM Work.
- 22.5.10 The remedial maintenance sub-Contractor and/or craftsmen used to perform Other Works/Services must be certified and/or approved by OEM equipment manufacture prior to performing any Work.
- 22.5.11 RM performed due to Contractor's negligence, including, but not limited to, failure to perform proper preventive maintenance will be the responsibility of the Contractor at no cost to HAS.
- 22.5.12 Contractor shall complete required RM work to the satisfaction of the Director and/or designee. Any RM items not repaired on a timely basis and/or found to be deficient after being repaired by Contractor may be repaired at the Director and/or designee's discretion by parties other than Contractor. If the repairs are determined by the Director and/or designee to be the responsibility of the Contractor, the Contractor shall be back-charged by HAS for all associated costs.
- 22.5.13 RM equipment/materials will be obtained for the Agreement by the following methods:
- 22.5.13.1 HAS shall have the option to supply the equipment / materials to Contractor at no cost to the Contractor.
- 22.5.13.2 Contractor shall obtain (3) itemized bids/estimates from separate/different vendors/suppliers for the required equipment / materials.
- 22.5.14 Emergency After-Hour Services (Other Works/Services) (HOU) & (EFD)
- 22.5.14.1 (HOU) When requested by Director and/or designee, Contractor shall provide - after-hour service between the hours of 11:00 p.m. and 5:00 a.m. within 1 hour of notification - Under basic service
- 22.5.14.2 (EFD) - When requested by Director and/or designee, Contractor shall provide - after-hour service between the hours of 10:00 p.m. and 6:00 a.m. within 2 hours of notification - - -under basic service.

23.0 WARRANTIES

- 23.1 Contractor warrants that it shall perform all work in a good and workmanlike manner meeting the standards of quality prevailing in Harris County, Texas, for work of this kind. Contractor shall perform all work using trained and skilled persons having substantial experience performing the work required under this Agreement.
- 23.2 With respect to any parts, instruments, equipment, and goods it furnishes, Contractor warrants:
- 23.2.1 that all items are free of defects in title, design, material, and workmanship,
- 23.2.2 that each item meets or exceeds the manufacturer's specifications and requirements for the equipment, structure, or other improvement in which the item is installed,
- 23.2.3 that each replacement item is new, in accordance with original equipment manufacturers specifications, and of a quality at least as good as the quality of the item which it replaces (when the replaced item was new),
- 23.2.4 That no items or their use infringe any patent, copyright, or other proprietary rights. In the event Contractor becomes aware of such an infringement, Contractor shall replace the items that are the subject of the infringement with non-infringing items in a timely manner; and
- 23.2.5 That for one year from the date of any installation ("Warranty Period"), Contractor shall provide all parts, instruments, equipment, and goods required to complete all Preventive and Remedial Maintenance required under the Agreement at no cost to the City. This warranty is in addition to Contractor's obligation to provide Basic Services under the Agreement. When the manufacturer's warranty period for any parts, instruments, equipment, and goods is greater than 1 year, the longer period prevails.

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23.3 Contractor shall manage and enforce on the City's behalf all manufacturer warranties issued before the Effective Date of this Agreement, during the Term of the Agreement, and any extensions. Contractor shall not be entitled to any additional compensation for the management and enforcement of these manufacturer warranties. If Contractor does not exhaust all remedies, including litigation, against a manufacturer who fails to honor all or a part of a warranty, it shall not receive additional compensation from the City for the labor and material costs it incurs to repair or replace the item that otherwise would have been under warranty.

24.0 REGULATORY COMPLIANCE/CODES

24.1 Regulatory Compliance

24.1.1 The Contractor shall comply with all applicable Federal, State and local laws, HAS Airport Policies, ordinances, rules, and regulations pertaining to the performance of the Work specified herein.

24.1.2 Licenses, Permits and Bonding: All personnel engaged in the maintenance activities must possess certificates of training, licenses, permits, and bonding as required by the Federal, State, County, HAS, and other local authorities having jurisdiction and as specified for each activity they will be directly engaged in or supervise. All certificates of training, licenses, permits and bonds shall be current and valid and available immediately upon request by HAS.

24.1.3 The Contractor shall obtain and pay for all permits, licenses, certifications and approvals required to perform services under the Agreement.

24.1.4 The Contractor shall schedule recurring inspections and certifications, and pay all associated fees.

24.1.5 The Contractor shall obtain any permits required to work on the Airports, including in restricted areas, as defined by Federal, State and local laws, City policies, procedures, ordinances, rules, codes and regulations. Both the Contractor's business and the Contractor's employees, including sub-Contractor's employees, must be certified to work on the Airports property, including restricted areas.

24.1.6 The Contractor shall be required to provide, as requested and on demand, all licenses, permits, certifications, and other such proof of qualifications for any personnel required to work on the Airports, including restricted areas, for proper execution of the Agreement.

24.2 Testing and Reporting Required by TCEQ and Federal Agencies

24.2.1 The Contractor shall take all steps necessary to operate and maintain boilers to ensure compliance with all current TCEQ regulations and those stipulated by Federal EPA New Source Performance Standards. Record keeping and compliance standards may be different for "new" boilers versus "grandfathered boilers," and Contractor shall implement the correct procedures for each. Contractor shall apply standard combustion control techniques such as proper excess air firing, flue gas analysis, and properly maintaining the burner/boiler packages. Within the first 90 days under the Agreement, Contractor shall study past stack tests for existing boilers to confirm that these systems are within the limits of the operating permits and the Maximum Allowable Emission Rate Tables furnished by the TCEQ.

24.2.2 As new or revised regulations are placed into effect, and HAS performs any replacement, retrofit, and/or reconstruction of the boiler packages to keep them in compliance with the new standard(s), Contractor shall modify its operation and maintenance procedures and its testing and reporting procedures to ensure compliance with regulations.

24.3 Codes and Standards

24.3.1 Except where specified or exceeded by the requirements of the specification, the Contractor shall conform to the latest edition of the following Codes:

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- 24.3.1.1 Federal, state, and local building, plumbing, mechanical, electrical, safety and environmental codes.
- 24.3.1.2 National Electrical Code (NEC).
- 24.3.1.3 International Plumbing Code.
- 24.3.1.4 International Mechanical Code.
- 24.3.1.5 International Fire Code.
- 24.3.1.6 International Energy Conservation Code.
- 24.3.1.7 State and Local Building Codes and Ordinances.
- 24.3.1.8 State and Local Fire Codes and Regulations.
- 24.3.1.9 Federal Aviation Standards and Regulations.
- 24.3.1.10 Occupational Safety and Health Administration Regulations.
- 24.3.2 Codes and Standards listed above and throughout these specifications are minimum standards.

25.0 OPERATING PHILOSOPHY (IAH), (HOU) & (EFD)

25.1 General Requirements

25.1.1 Best-in-Practice Service of HVAC SYSTEMS, maintaining specified environmental conditions, and cost-effective energy management are of paramount importance in operating and maintenance of the Airports HVAC SYSTEMS. Contractor shall observe OEM recommended preventive maintenance and maintenance practices and procedures. Contractor shall comply with applicable Federal, State and Local regulations of Authorities having jurisdiction including regulations of Occupational Safety and Health Act (OSHA), Environmental Protection Agency (EPA) requirements and recommended practices of National Institute for Occupational Safety and Health.

25.1.2 The operating procedures, used by Contractor, must be in accordance with OEM instructions contained in applicable manufacturers' manuals for individual items of equipment, including the latest OEM technical/user manuals, service bulletins, service advisories, product/service information updates, and all other such OEM published information pertaining to the maintenance and operation of HVAC SYTEMS. Contractor's operating procedures must address overall operation of the plant, taking into account the interrelationships of various systems to ensure that proper sequences are followed in start-up, shutdown, or in making operating adjustments. All written operating instructions and procedures must be readily available to operating personnel at all times for reference.

25.1.3 It is recognized that Contractor has no responsibility regarding design of the facilities, which it will operate and maintain. However, where it is evident that safety, reliability or efficiency can be improved through capital investment in equipment, analyzers, instrumentation, etc., Contractor shall bring such matters to the attention of the Director and/or designee in writing for his consideration and action as the Director and/or designee deems appropriate.

25.2 Operating Philosophy

25.2.1 The (IAH) chilled water system is a primary-secondary variable pumping system. The primary pumps, chillers and the automatic pressure bypass are located in the (IAH) Central Plant. Secondary pumps are located in the Terminals. Terminals A, B, C, D, and FIS have secondary pumps that are variable speed drives.

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25.2.2 For the (IAH) Central Plant to deliver adequate chilled water (flow and pressure), it is imperative that the design chilled water rise (15°F) be maintained during all cooling load conditions. The (IAH) Central Plant is designed for a 40°F leaving water temperature. All existing air handling equipment is adjusted for 42°F entering water temperature and leaving air temperature and air quantity at the coils to provide for a 15°F chilled water rise. All new equipment is being designed for 42°F entering water temperature and a 15°F chilled water rise. Any cooling equipment and controls not maintaining design must be promptly identified, cleaned and/or repaired then, if not balance, the Director and/or designee shall be notified.

25.2.3 (HOU) Operating Philosophy

25.2.3.1 The (HOU) existing chilled water system is a primary variable pumping system. The primary pumps and chillers are located in the Central Plant. Booster pumps exist at some AHUs. The new (HOU) chilled water system is a primary-secondary system with all pumps in the central plant. Secondary pumps are scheduled for variable speed drives.

25.2.4 (EFD) Operating Philosophy

25.2.4.1 Contractor shall operate and maintain HVAC equipment at (EFD) to provide optimum performance, energy usage, and reliability.

25.2.4.2 Contractor shall rotate the chilled water pumps and compressor usage on the units located at 510 Administration building.

26.0 **OPERATE THE HVAC SYSTEMS (IAH) & (HOU)**

26.1 As a part of Basic Services throughout the term of the Agreement, Contractor shall operate all heating, ventilation, exhaust, re-circulating and air conditioning and related systems for (IAH) in the Central Plant, Terminals A, B, C and D, Aviation Administration Building, ASC facility, Remote Buildings/Facilities, Miscellaneous DX Equipment and all new facilities that may be built and start operation within the term of the Agreement.

26.2 Contractor shall operate all heating, ventilation, exhaust, re-circulating and air conditioning and related systems for (HOU) in the Central Plant, Terminal, Building at 8800 Paul B. Koonce Blvd., Building, Remote Buildings/Facilities, Miscellaneous DX Equipment and all new facilities that may be built and start operation within the term of the Agreement.

26.3 Contractor shall operate and maintain HVAC systems and equipment that include, but are not limited to, the following:

26.3.1 All Central Plant mechanical and electrical systems, for (IAH) and (HOU), including chilled water generation system, condenser water system, steam generation system, high temperature and domestic hot water generation systems, pumping, controls, instrumentation, plumbing system, electrical system, heating system, pneumatic systems, ventilating, exhaust and re-circulating systems.

26.3.1.1 Within the Central Plants, the Contractor shall maintain all plumbing systems back to the main line. The Contractor's responsibilities for the plumbing systems within peripheral areas are those HVAC related items such as drains in the mechanical rooms (air handlers, condenser drains, sewage/sump pump and pits, heat exchanger plumbing from tanks to pumps to walls, etc.).

26.3.1.2 Within the Central Plants, Contractor shall clean, inspect, maintain and repair the electrical distribution components as necessary from the point where the power comes into the transformer complex at the plant (refer also to the Annual Maintenance Shutdown Procedures, Exhibit XII). In peripheral areas, Contractor shall maintain the HVAC electrical systems from the existing panels.

26.3.1.3 Contractor shall maintain the SW to MCC and MCC to Equipment at (IAH) and (HOU).

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- 26.4 All outdoor systems and equipment related to the Central Plant including piping, pumps, cooling towers, utility services, transformers, cables and switchgear.
- 26.5 All heating, ventilating, exhaust, re-circulating and air conditioning systems and related systems/equipment for (IAH) in Terminals A, B, C, D, FIS, Aviation Administration Building, ASC facility, Remote Buildings/ Facilities and Miscellaneous DX Equipment, including, but not limited to, heating, ventilating and air conditioning units, exhaust and re-circulating fans, automatic temperature controls, instrumentation, pumps, piping system, ductwork, mixing boxes, panel boards, motor starters, disconnect switches and wiring, VAV boxes and electronic air cleaners, etc.
- 26.6 All heating, ventilating, exhaust, re-circulating and air conditioning systems and related systems/equipment for the Airports in Terminal Concourse Areas, Old FAA Tower, FAA Motor Maintenance Building, Remote Buildings/Facilities and Miscellaneous DX Equipment, including, but not limited to, heating, ventilating and air conditioning units, exhaust and re-circulating fans, automatic temperature controls, instrumentation, pumps, piping system, ductwork – including all supply and return air components, mixing boxes, and panel boards, motor starters, disconnect switches and wiring, VAV boxes and electronic air cleaners, etc.
- 26.7 Clean and repair all HVAC vents, registers and intake grilles. Exception will be terminal A main lobby vents, until HAS completes a project upgrade.
- 26.8 Domestic hot water generating systems for the Terminals, and all related controls, plumbing and electrical equipment and systems within their respective equipment rooms. HAS personnel will maintain all domestic hot water and re-circulating hot water piping outside the mechanical room.
- 26.9 (IAH) - Maintain and monitor existing high/low temperature sensor alarms located in the telecommunication equipment/switch rooms located in Terminals A and Aviation Administration Building. Both are monitored from the Central Plant via Aviation provided cabling. Contractor is not responsible for the cabling of the sensors to the Central Plant. In the event of a problem associated with the cable, Facilities Administration and AMIS are to be contacted.
- 26.10 Evaluate and troubleshoot electronic and electrical control systems to ensure appropriate repairs are made and maintained.
- 26.11 Replace lamps, ballast, sockets, photocells, etc., in the Central Plants (interior and exterior) and all mechanical rooms with air handling units or sump pits in the terminal(s) and remote buildings.
- 26.12 (IAH) - Operate and maintain the Terminal D -Alerton system.
- 26.12.1 (IAH), (HOU) & (EFD) Operating Procedures and Manuals – Contractor is responsible for obtaining/providing the following manuals for use in the operation and maintenance of HVAC SYSTEMS.
- 26.12.1.1 Operations Manual.
- 26.12.1.2 Equipment Manuals and Equipment Data Sheets.
- 26.12.1.3 Systems Manual.
- 26.12.2 When available HAS will provide manuals etc. to Contractor.
- 26.12.3 Operations Manual, Equipment Manuals, and Equipment Data Sheets address the HVAC equipment from a component perspective. The Systems Manual details the operational procedures of the HVAC equipment from a procedural perspective. Contractor shall use these manuals in the operation and maintenance of the facilities.
- 26.12.4 Contractor shall follow the procedures in the Operations Manuals and ensure the Operations manuals and data sheets, technical/user manuals, service bulletins; service advisories, product/service information updates, and all such other OEM published information pertaining to the maintenance and operation of HVAC systems and equipment are updated and maintained.

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- 26.12.5 Some equipment installed by tenants and the City may not be included in the equipment manuals. Contractor shall obtain any missing pertinent data for the equipment manuals for any equipment installed by:
 - 26.12.5.1 Tenants which has become the property of the City or,
 - 26.12.5.2 By Director and/or designee, all being part of Contractor's responsibility.
- 26.12.6 HAS will assist in the transfer of available copies of the operations manuals and the equipment manuals to Contractor upon HAS issuance of notice to proceed document for each Airport.
- 26.12.7 Updating of the Equipment Manual shall be completed by the end of the first year of the Agreement and shall include development by Contractor of Equipment Data forms expanded to include all data pertinent to the normal operation and maintenance of each piece of mechanical and related electrical equipment. Such data shall include in addition to existing data, the sheave and belt sizes, motor data, starter and heater sizes, and the manufacturer's data identifying the equipment or component. Recommended changes in the Operations Manual, as a result of knowledge and experience with the systems, shall be submitted in writing for the Director and/or designee's consideration. These suggestions will be taken under advisement by the Director and/or designee. As required, the suggestions will be reviewed by the Director and/or designee with Contractor. Resulting changes to the Operations Manual shall be the responsibility of Contractor. Once finalized and completed by the end of the first year of the Contract, Contractor shall maintain and update the documents.

27.0 PERFORMANCE STANDARDS (IAH), (HOU) & (EFD)

27.1 General

- 27.1.1 Contractor's operation and maintenance of Airports HVAC systems and equipment must be in accordance with the highest standards prevailing in the industry, recommendations of the OEM, as well as all applicable codes, rules, regulations, and laws of any regulatory or legislative body having jurisdiction over IAH, HOU, and EFD which include, but are not limited to, State of Texas agencies having jurisdiction over boiler operations, Texas Commission on Environmental Quality (TCEQ) over certain environmental matters, and Federal regulatory bodies, including, but not limited to EPA, OSHA, TSA, and FAA. Contractor shall ensure full compliance and shall bear the cost of any additional work or materials not specified that may be required. Any violation, omission, or question of compliance must be brought to the attention of the Director and/or designee.
- 27.1.2 Contractor shall respond immediately to a request from the Director and/or designee for emergency service to perform all steps reasonably necessary to protect persons and property from risk of harm due to a problem with the system. Priority must be given to requests for emergency service.

28.0 ENVIRONMENTAL CONDITIONS (IAH), (HOU) & (EFD)

28.1 As a part of Basic Services, Contractor shall maintain the following environmental conditions within occupied conditioned spaces, unless otherwise specified in the Agreement or requested by the Director and/or designee.

<u>(IAH), (HOU), (EFD)</u>	<u>Summer</u>	<u>Winter</u>
Cooling Temperature	74°F ± 2°F	74°F ± 2°F
Design Day	97°Fdb and 80°Fwb	22°Fdb
Humidity	55% + 5%	40% max.
Heating Temperature	74°F ± 2°F	74°F ± 2°F

28.2 (IAH) – Central Plant Reserve Capacities

As part of Basic Services, Contractor shall operate the (IAH) Central Plant facilities in such a manner as to provide all heating and cooling systems at 100% capability. Exception to this will be equipment off-line for needed repairs and/or annual preventative maintenance service.

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28.3 *(HOU) – Central Plant Reserve Capacities*

As part of Basic Services, Contractor shall operate the (HOU) Central Plant facilities in such a manner as to provide all heating and cooling systems at 100% capability. Exception to this will be equipment off-line for needed repairs and/or annual preventative maintenance service.

29.0 HVAC SYSTEMS AND RELATED EQUIPMENT (IAH), (HOU), & (EFD)

29.1 The Airports HVAC Systems and Related Equipment in the Central Plants covered under Basic Services include, but are not limited to,:

29.1.1 All mechanical and specified plumbing systems and all related electrical systems to include heat exchanger tubing bundles.

29.1.2 Pneumatic and electronic systems associated with the generation of chilled water, steam, high temperature water, and heating water.

29.1.3 Cooling and heating water distribution and pumping systems within the Central Plant and Terminals.
29.1.4 Controls.

29.1.5 Instrumentation.

29.1.6 Central Plant lighting, inside and outside Building Lights and Cooling Tower Lighting.

29.1.7 Central Plant domestic cold and hot water.

29.1.8 Storm and sanitary sewer systems to the main line, including main room floor drains.

29.1.9 Odor masking/odor control.

29.1.10 Water treatment services and water treatment chemicals.

29.1.11 Full housekeeping services in the Central Plants and Contractor's office areas.

29.2 The Airports Electrical Systems in the Central Plants covered under Basic Services include, but are not limited to,:

29.2.1 All related pneumatic and electronic systems associated with the generation of chilled water, steam, high temperature water, heating water, cooling and heating water distribution and pumping systems

29.2.2 Controls.

29.2.3 Instrumentation.

29.3 The Airports HVAC Systems and Related Equipment from the Airports Central Plants to the most remote points in the Terminals, Concourses and/or Flight Stations covered under Basic Services include but are not limited to:

29.3.1 All associated HVAC systems, equipment and components including, but not limited to, all cooling and heating water - pumping systems including.

29.3.2 All pneumatic compressors and related controls.

29.3.3 All air side mechanical rooms.

29.3.4 All domestic hot water generation and storage water systems to include all Backflow preventers in all mechanical rooms.

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- 29.3.5 All related controls and electrical service.
- 29.3.6 All air handler units and air distribution systems and components including ductwork, mixing boxes and controls actuators and VSD's.
- 29.3.7 All exhaust and re-circulating fans and controls.
- 29.3.8 All automatic temperature controls and instrumentation.
- 29.4 The Airports Electrical Systems and Related Equipment from the Airports Central Plants to the most remote points in the Terminals, Concourses and/or Flight Stations covered under Basic Services include, but are not limited to,:
- 29.4.1 All electrical service systems, equipment and components serving HVAC systems, equipment and components. (All encompassing with exception of high voltage transmission lines and sub-stations).
- 29.4.2 All electrical service to and electrical service of motor control centers.
- 29.4.3 Mechanical panel-boards, fused switches and circuit breakers, motor starters, disconnect switches, conduit, wiring, and related electrical controls.
- 29.4.4 All specified stand-alone A/C units, heaters, furnaces; and other related equipment.

30.0 (IAH) SYSTEM OVERVIEW - PERFORMANCE REQUIREMENT SYNOPSIS

30.1 (IAH) Central Plant

- 30.1.1 The IAH Central Plant houses all of the major equipment providing a closed loop chilled/hot water HVAC system to Terminals A, B, C, D and FIS Building. As a part of Basic Services, Contractor shall operate and maintain all systems within the Central Plant. The major systems include, but are not limited to, the following:
- 30.1.2 Steam Generating System.
- 30.1.3 Hot Water System.
- 30.1.4 Refrigeration Units.
- 30.1.5 Chilled Water System.
- 30.1.6 Condenser Water System.
- 30.1.7 Service Water System.
- 30.1.8 Compressed Air System.
- 30.1.9 Air Distribution, Heating, Ventilating and Exhaust Systems.
- 30.1.10 Auxiliary Systems.
- 30.1.11 Electrical Equipment.
- 30.1.11.1 High Voltage Transformers for Chillers and Motor Control Centers (transformers located adjacent to the Central Plant building) and across the street in the electrical sub-station.
- 30.1.12 The primary heating and cooling mediums are conveyed from the Central Plant via tunnel to Terminal B and underground chilled water connecting west of Terminal C where distribution is accomplished to the rest of the complex.
- 30.1.13 The Central Plant also houses the Administration Offices for Contractor and the repair facilities for the Contractor's 24-hour on-site staff complete with break and restroom/shower facilities.

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30.2 (IAH) Central Plant Equipment

- 30.2.1 Contractor shall operate and maintain all systems in or associated with the Central Plant. A detailed listing of Central Plant Equipment is provided in The HVAC Equipment Inventory List Exhibit XI.
- 30.2.2 Contractor shall operate and maintain all electrical power distribution from the point the power comes into the transformer complex at the plant.
- 30.2.3 Contractor shall operate and maintain all HVAC-related piping systems, electrical distribution systems and appurtenances from the Central Plant to the Terminals and Old FAA Tower.
- 30.2.4 Contractor shall maintain all domestic water components from the meter that supports the Central Plant functions (i.e. cooling towers, makeup water, standpipes, fill pipes, backflow preventers, and domestic water within the plant).
- 30.2.5 Contractor shall maintain all the chilled and hot water piping to all demarcation points (i.e. Old FAA Tower entrance valve point and all other (IAH) distribution side chilled and hot water).
- 30.2.6 HAS will provide access (digging, trenching, etc.) to piping outside the building envelope, which is not accessible through the tunnel system or other accessible means in order for Contractor to perform repairs.

30.3 Performance Requirements at (IAH) - Terminals A, B, C, D, and FIS

30.3.1 General

- 30.3.1.1 (IAH) Terminal Buildings A, B, C, D, and FIS are supplied primary heating and cooling mediums from the remote Central Plant facilities located at the west end of Will Clayton Parkway. The Terminal systems are designed to maintain $74^{\circ}\text{F} \pm 2^{\circ}\text{F}$ indoor temperature through wide variations of outdoor temperature utilizing chilled and high temperature hot water. The mediums are conveyed in tunnels and pedestrian walkways to each terminal. The Central Plant system is capable of supplying chilled water at 40°F on demand to meet peak cooling demands with no more than 42°F at the coil. The Plant is also capable of supplying high temperature hot water at a temperature of 300°F on demand to meet peak heating requirements. Hot water for domestic use and kitchen use is converted by shell and tube heat exchangers in hot water generators at each Terminal Complex. The Domestic hot water systems are designed to provide 160°F water. HAS will select Primary and Domestic Hot Water Temperature settings as required to meet requirements in individual Terminals. Contractor shall maintain all primary water, air, and secondary air systems to meet design and performance requirements set forth in the specific Contract documents under which they were installed. A detailed listing of Terminals Equipment is provided in HVAC Equipment Inventory List Exhibit XI, Coil leaving air temperatures are generally designed for 52.5°F leaving air temperature for all new equipment and new coils with 42°F entering water while maintaining a 15°F water temperature rise. Lowering leaving air temperatures below 52.5°F is not acceptable as a satisfactory solution to resolving any space temperature control problem. This Practice results in lower water temperature rise reducing Central Plant and Distribution System Deliverable Capacities. AHU system balancing including Fan and Coil, maintaining clean filters, and cleaning coils are the proper ways to maintain AHU System performance in accordance with design conditions. 2-inch, Merv 8 pleated filters need to be changed out at .8 inches on the magnehelic, 6-inch box filters need to be changed out at 1.25 inches. NO EXCEPTIONS. Any time the Director and/or designee finds dirty filters on any AHU that unit will have the coils cleaned. Coil cleaning will be done on third shift, NO EXCEPTIONS.
- 30.3.2 (IAH) Terminal Buildings A, B, C, FIS, and APM.
- 30.3.2.1 Air Handling Equipment or air handling units with new coils in these Terminals have been designed and selected for 52.5°F leaving air temperature. Equipment installed prior to 1990 is all designed to meet a performance requirement of 54°F with 42°F chilled water at the coil. Under these conditions all unit coils will produce a 15°F Water Temperature Rise. Air temperature leaving coils must not be set below a temperature resulting in less than a 15°F water temperature rise.

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30.3.3 Below Grade – Inter-Terminal Train (ITT) Level.

30.3.3.1 The ITT Level of both Terminals consists of Mechanical and Electrical rooms to the south of the ITT Track area. The Electrical Rooms serve primary electric power to the Terminals. "Pump Rooms" in each Terminal contain pumps to provide adequate pressure and flow for cooling and heating water to the Terminals. High temperature water heat exchangers for generation of heating water are also located in the pump rooms. Domestic hot water generators/storage tanks in this same area provide domestic hot water for the Terminals.

30.3.3.1.1 Terminal A has developed areas north of the tracks at the ITT Level but Terminal B has not. This area in Terminal A contains the ITT Train service and maintenance area and other general airport service equipment and other service agencies. These areas are cooled and heated by multi-zone and single-zone units. All outside air is pretreated.

30.3.3.1.2 Below the elevator core area of the ITT Level in both Terminals A & B are elevator machine rooms. These rooms contain an air-handling unit to cool elevator machinery.

30.3.3.2 Train-Pedestrian Tunnel

30.3.3.2.1 This area is served by low pressure single zone units located in fan rooms adjacent to Pump Rooms in Terminals A & B and in rooms at or under Stairwells #2, #4, #5, #7 and #9 and at the ITT Train Turn-around at Terminal D Train Stop. Low-pressure single zone variable temperature units without outside air pretreatment units serve the pedestrian Tunnel. The supply is routed above the ceiling to conventional diffusers with air returned through the ceiling plenum, then to a main return duct to the AHU mechanical room. The Pedestrian Tunnel will be maintained at 74°F.

30.3.4 Ground Level, Second Level and Mezzanine Level

30.3.4.1 The ground levels of both Terminals A & B are used as general terminal access, baggage handling and claim and private offices for Airport personnel and airline baggage services. The second floor is ticketing, food service and airline ticketing office areas. This level also provides access to arrival and departure areas in the concourses of Terminal A.

30.3.4.2 On the 1st parking level of Terminals A & B, four major quadrant air handling mechanical rooms serve the terminal building ground, second and mezzanine level areas. The mechanical rooms are positioned over the wings of the terminals and contain two recently upgraded AHU's, one double duct type and one multi-zone type, and one new outside air pretreatment unit (OAPU) to serve the primary terminal areas. The space temperature through the air distribution system is controlled with dual duct fan powered air terminal units. The new OAPUs provide outside air to the two AHUs serving general public and private office areas. Supply air is conveyed downward to the mezzanine, second and ground levels through supply/return air chases in the various quadrant wings of the Terminal below the mechanical equipment rooms. Cold supply air must be maintained at 52.5°F for humidity and temperature control on all these units.

30.3.4.3 The ground level baggage pick-up areas are served by the multi-zone systems and office areas by dual duct systems. Each office zone is controlled by local thermostats controlling a dual duct mixing box. Multi-zone systems are controlled by thermostats and the AHU mixing damper section at the unit.

30.3.4.4 The dual duct control settings for the new and existing upgraded units with new cooling coil systems are scheduled for 52.5°F cold deck settings. Hot deck settings will vary with the zone of greatest heating demand to maintain a 74°F \pm 2°F indoor temperature.

30.3.4.5 Pedestrian traffic, baggage and high infiltration rates create greater filter maintenance on the ground and second level AHU's. Filters on AHUs at these levels will be scheduled for more frequent replacement.

30.3.5 Ground Level, Ticket Level & Mezzanine Level – Terminals A & B

30.3.5.1 Flight Stations in Terminal B - These flight stations are part of the Terminal B complex.

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- 30.3.5.2 Flight Stations 5, 7 and 8 have dual duct fan powered air terminal units installed in 1990. Flight Station 6 has dual duct air terminal units installed in 1996 that are not fan powered. Coil leaving air temperatures should be set on these units at a minimum of 54°F to assure adequate return water temperature.
- 30.3.5.3 Terminal B Concourse Ways to Flight Stations - The four concourse ways were designed into the original complex to provide access to flight stations. These concourse ways are served by low-pressure single-zone units with outside air pretreatment units. The supply is routed above the ceiling to conventional diffusers with air returned through the ceiling plenum, then to a main return duct to the AHU mechanical room. Coil leaving air temperatures should be set on these units at a minimum of 52°F to assure adequate return water temperature. The outside air pretreatment unit serving air to concourse way units should have the cold deck temperatures at 52.5°F.
- 30.3.5.4 Grade Level of Flight Stations - The grade level is conditioned by a dual duct system with one AHU. Dual-duct and single duct fan powered ATUs (mixing boxes) and variable air volume ATUs are controlled by zone thermostats.
- 30.3.5.5 Coil leaving air temperatures should be set on these units at a minimum of 54°F to assure adequate return water temperature.
- 30.3.5.6 Second Level of Flight Stations - This space serves as the passenger arrivals/departure area. This level is conditioned by two dual duct systems with two AHUs, one serving the east and the other serving the west half of the flight station. The controls are similar to the terminal building systems. Space temperature is controlled through Dual-duct and single duct fan powered ATUs (mixing boxes) by zone thermostats. Coil leaving air temperatures should be set on these units at a minimum of 54°F to assure adequate return water temperature.
- 30.3.6 Terminal Building D
- 30.3.6.1 Terminal D is situated directly east of Terminal C and north of the West bound terminal through road. It is essentially a four-story linearly configured structure with a two-story connecting corridor to the West, which connects Terminal D with Terminal "C." The remote Central Plant supplies primary heating and cooling mediums for the Terminal. The mediums are conveyed through primary piping systems in tunnels and pedestrian walkways connecting all terminals with the Central Plant.
- 30.3.6.2 Terminal D HVAC Equipment
- As a part of Basic Services, Contractor shall operate and maintain all HVAC systems in or associated with Terminal D. A detailed listing of Terminal D Equipment is provided in HVAC Equipment Inventory List Exhibit XI. The following is a general description of Terminal D HVAC equipment.
- 30.3.6.2.1 Air Handling Units and associated Control Valves.
- 30.3.6.2.2 Outside Air Pretreatment Units.
- 30.3.6.2.3 Electronic Air Cleaners and Carbon Filter Systems.
- 30.3.6.2.4 Fan Powered Air Terminal Units w/ Heating Coils.
- 30.3.6.2.5 Exhaust/Circulating Fans (Baggage Make-Up).
- 30.3.6.2.6 Fan Coil Units.
- 30.3.6.2.7 Heating and Ventilating Units.
- 30.3.6.2.8 Heating Hot Water Converter/Generators.
- 30.3.6.2.9 Domestic Hot Water Converter/Generators with recirculation Water Pumps
- 30.3.6.2.10 Chilled Water Circulating Pumps.
- 30.3.6.2.11 Heating Water Circulating Pumps.

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30.3.6.2.12 Domestic Hot Water Return Pumps.

30.3.6.2.13 Exhaust Fans for Inside Terminal Areas.

30.3.6.2.14 Alerton Building Management System.

30.3.6.3 In summary, there are 31 AHUs including outside air pretreatment units; Single zone, Multi-zone and Variable Volume units. There are 7 Fan coil units, 2 Heating ventilation units, 13 exhaust fans, 3 transfer fans, 1 DX split system, 16 relief fans, 7 electronic air cleaners, 4 Leibert units maintaining the requirements of the telephone and airlines file server system.

30.3.7 Performance Requirements – Terminal D

30.3.7.1 Water Side System

30.3.7.1.1 The chilled water and high temperature water systems deliver water from the Central Plant through primary water piping distribution systems in tunnels and pedestrian walkways. Chilled water is designed for delivery at 40°F supply. High temperature water is designed to deliver heating water to the Terminal at 180°F.

30.3.7.1.2 In Terminal D are two (2) variable speed control chilled water pumps. The control points for the network are a 44-66 PSI delta to be maintained in the branch circuits pressures at the ends of the network.

30.3.7.1.3 The hot water system has two (2) variable speed controls pumps. The super heated water is delivered through the tunnel and walkway. The system has two heat exchangers with a temperature reset schedule from supply water equal to 180°F at outside temperature of 20°F to 80°F.

30.3.7.1.4 The control valves on the water-side at the air handler units in Terminal D, which throttle the water through the air handlers, should be exercised quarterly.

30.3.7.2 Air Side System

30.3.7.2.1 Level 121 lobby - is served by several AHU's. Supply is through fan powered VAV boxes of various types, some of which have reheat capabilities. Fan powered VAV boxes without heat take care of the air conditioning requirements throughout the remaining areas with some of the small exclusive areas being handled by VAV boxes.

30.3.7.2.2 Fixed Bridges - are all conditioned with single zone air handling units with 75°F within the space, controlling the heating and cooling valves. These units are all of the Constant Volume Type.

30.3.7.2.3 Level 106 - has the full variety of units used on this "site" from Fan Powered VAV boxes with and without heat to straight forward VAV boxes without fan assist. Temperature set point as with other levels is 74°F.

30.3.7.2.4 Level 100 - which interfaces directly with the outside, uses relief fans, outside air fans, heating ventilation units and air handling units along with fan coil units. At the eastern edge of Level 100, where the airline operations have their offices and work areas, there are the full assortment of VAV box types used on site, all with 74°F as their objective.

30.3.7.2.5 Level 88 - houses the majority of offices along the interior and per design should require no heating through straight VAV units serving these areas. The lobby is basically handled by two (2) AHU's each having multiple temperature sensors with the highest and the lowest of their respective AHU controlling its hot and cold deck accordingly. The western half of the level because of its diversity of loads has all types of VAV units.

30.3.7.2.6 Level 74 and Train Tunnel areas - are serviced by VAV AHU's with 53°F set points.

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30.3.7.2.7 Restricted Access Areas – Terminal D

Access to Terminal D Operations Areas is limited to Contractor's personnel, HAS employees, and certain individuals authorized by the Director and/or designee, provided those persons identified by the Director and/or designee do not interfere with or jeopardize the Contractor's responsibilities under the Agreement. Contractor shall conform to such identification and security procedures as the Director and/or designee may deem necessary and as required by law and FAA regulations. Access must be strictly controlled and Contractor shall keep a record of all keys distributed to its personnel. Officers, employees or agents of Contractor shall never enter restricted or operational areas of Terminal D without the express permission of the Director and/or designee or any other governmental bodies having jurisdiction, and Contractor hereby assumes full liability arising from any such unauthorized incursions.

30.4 Other Remote Facilities

30.4.1 Old FAA Tower

30.4.1.1 IAH primary distribution systems (PCHW & HTW) to the Old FAA Tower; Service Applies up to, but not including, Secondary CHW Pump Headers; Service Applies up to, but not including, Heating Water Heat Exchanger.

30.4.2 Airport Services Complex (ASC)

30.4.2.1 The Airport Services Complex (ASC) is located at 4500 Will Clayton Parkway and was put into service in March, 1992. The ASC comprises the following buildings and facilities.

30.4.2.2 Supply Chain Management/Fleet Division Offices and Supply Warehouse.

30.4.2.3 Physical Plant Maintenance (PPM) Offices and Service Bays.

30.4.2.4 Airfield & Grounds Maintenance Building.

30.4.2.5 Airfield & Grounds Maintenance/Covered Equipment Storage Sheds.

30.4.2.6 Vehicle Wash Facility.

30.4.2.7 Vehicle Fueling Station.

30.4.3 ASC HVAC Equipment

30.4.3.1 Contractor shall maintain all HVAC systems in or associated with the ASC. A detailed listing of ASC Equipment is provided in HVAC Equipment Inventory List Exhibit XI. The following is a general description of the ASC HVAC equipment.

30.4.3.1.1 Packaged Chiller.

30.4.3.1.2 Air Cooled Condensing Unit.

30.4.3.1.3 Air Handling Units.

30.4.3.1.4 Air Handling Unit Filters.

30.4.3.1.5 Air Handling Unit Interlocks.

30.4.3.1.6 Ventilating Fans with thermostats, speed controls, etc.

30.4.3.1.7 Fire Dampers.

30.4.3.1.8 Electric Duct Heaters.

30.4.3.1.9 Gas-Fired Warm-Air Heating Units.

30.4.3.1.10 Air Distribution Devices.

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30.4.3.1.11 Volume Dampers.

30.4.3.1.12 Liebert unit in Main Distribution Frame (MDF) Telephone Room.

30.4.3.2 Performance Requirements – ASC

Contractor shall operate the HVAC systems to maintain a year-around interior ambient of 74 degrees temperature and a maximum of 50% + 5% relative humidity in summer within the building envelope, except for the MDF Telephone room in which Contractor shall operate the Liebert unit to maintain a year-around ambient of 68 degrees with a non-condensing relative humidity.

30.4.4 Aviation Administration Building

30.4.4.1 Contractor shall maintain all HVAC systems in or associated with the Aviation Administration Building. A detailed listing of Administration Complex HVAC Equipment is provided in The HVAC Equipment Inventory List Exhibit XI. The following is a general description of the Administration Building HVAC equipment.

30.4.4.1.1 Air Cooled Chillers.

30.4.4.1.2 Air Cooled Condensers.

30.4.4.1.3 Air Handler Units.

30.4.4.1.4 Chill Water Pumps.

30.4.4.1.5 Air Compressor with Air Dryer for instrument air.

30.4.4.1.6 Boilers.

30.4.4.2 Performance Requirements - Administration Complex

The HVAC system should maintain a year-around interior ambient of 74 ± 2 degrees temperature and a maximum of 50% + 5% relative humidity in summer within the building envelope.

30.4.5 Supply Chain Management/Fleet Building

30.4.5.1 Contractor shall maintain all HVAC systems in or associated with the Supply Chain Management/Fleet buildings. A detailed listing of Supply Chain Management/Fleet Buildings HVAC Equipment is provided in The HVAC Equipment Inventory List Exhibit XI. The following is a general description of the Supply Chain Management/Fleet Buildings HVAC equipment.

30.4.5.1.1 Chillers (1) 80 Ton & (1) 50 Ton.

30.4.5.1.2 CHW pumps.

30.4.5.1.3 Chill Water Pumps.

30.4.5.1.4 Air Handler Units.

30.4.5.1.5 Controls.

30.4.5.1.6 Duct & Grills.

30.4.5.2 Performance Requirements – Supply Chain Management/Fleet Buildings

The HVAC system should maintain a year-around interior ambient of 74 ± 2 degrees temperature and a maximum of 50% + 5% relative humidity in summer within the building envelope.

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30.4.6 Other Remote Buildings/Facilities

30.4.6.1 In several remote buildings and structures at the Airport, Contractor shall maintain the HVAC equipment. It is anticipated that certain of these facilities, which are HAS-owned, will be leased to other tenants during the Agreement Term, and future lease agreements may transfer responsibility for maintaining applicable HVAC equipment to the new leaseholder; it is anticipated that certain facilities, which are non-HAS-owned, but currently leased by HAS, will be excluded from the Agreement at the termination of lease periods; it is anticipated that quantities of Security Guard/Taxi Booths may increase or decrease during the Agreement Term. Remote buildings and structures include the following:

- 30.4.6.1.1 *18845 Col. Fischer Dr. (Fleet Maintenance Facility).
- 30.4.6.1.2 Vault #1432.
- 30.4.6.1.3 FAA Motor Maintenance.
- 30.4.6.1.4 Vault 927.
- 30.4.6.1.5 *U.S. Customs Cargo Bldg. (Cargo Buildings "A" and "B").
- 30.4.6.1.6 *Cargo Area (USDA APHIS 3014 McKaughan).
- 30.4.6.1.7 Vault 826.
- 30.4.6.1.8 *5051 Wright Road.
- 30.4.6.1.9 3060 Air Freight (Freight Forwarder Building).
- 30.4.6.1.10 Security and Taxi Booths.
- 30.4.6.1.11 Cargo Building N Suites A & B1, 18500 Lee Road (Airport Engineers).
- 30.4.6.1.12 Fire Stations.
- 30.4.6.1.13 Equestrian Center on Luthé Rd.

**(Locations marked with asterisk and italicized indicate facilities most likely to be affected by future lease agreements).*

30.4.7 Remote HVAC Equipment

30.4.7.1 Contractor shall maintain all HVAC systems in or associated with the remote buildings and structures. A detailed listing of Remote Equipment is provided in The HVAC Equipment Inventory List Exhibit XI. A general description of the remote HVAC equipment follows:

- 30.4.7.1.1 Air Cooled Condenser Units.
- 30.4.7.1.2 Air Handler Units.
- 30.4.7.1.3 Fan Coil Units.
- 30.4.7.1.4 Gas Flow Furnaces.
- 30.4.7.1.5 Forced Air Furnaces.
- 30.4.7.1.6 Boiler.
- 30.4.7.1.7 Air Compressor w/ air dryer.

30.4.7.2 Performance Requirements – Remote

The HVAC system should maintain a year-around interior ambient of 74 ± 2 degrees temperature and 50% relative humidity within the building envelop.

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30.4.8 Miscellaneous DX Equipment

30.4.8.1 The IAH airport system includes certain buildings housing both HAS employees and airport tenants that fall outside the chilled water closed loop system including Airport Services Complex, HAS Administration Building, Supply Chain Management/Fleet buildings, and Other Remote Buildings/ Facilities. The designation (DX) in these documents identifies those specific stand alone systems for which O&M HVAC services Contractor is responsible to operate and maintain. The systems in these facilities range from stand alone 3/4-ton window units to complete packaged heating and cooling units.

30.4.9 Miscellaneous (DX) HVAC Equipment

30.4.9.1 Contractor shall maintain certain DX HVAC equipment. A detailed listing of Miscellaneous (DX) HVAC Equipment is provided in The HVAC Equipment Inventory List Exhibit XI.

30.4.9.1.1 Window Units.

30.4.9.1.2 Packaged Units.

30.4.9.1.3 Roof Unit.

30.4.9.1.4 Blower Unit.

30.4.9.2 Performance Requirements Miscellaneous (DX).

The HVAC system should maintain a year-around interior ambient of 74 °F ± 2° F temperatures and 50% relative humidity within the building envelope.

31.0 (HOU) AIRPORT SYSTEM OVERVIEW - PERFORMANCE REQUIREMENT SYNOPSIS

31.1 (HOU) Central Plant

31.1.1 The Central Plant houses all of the major equipment providing closed loop chilled/hot water HVAC system to the Terminal. Contractor shall operate and maintain all systems within the Central Plant. The major systems are as follows:

31.1.1.1 Hot Water System.

31.1.1.2 Refrigeration Units.

31.1.1.3 Chilled Water System.

31.1.1.4 Condenser Water System.

31.1.1.5 Service Water System.

31.1.1.6 Compressed Air System.

31.1.1.7 Air Distribution, Cooling and Heating Air Systems.

31.1.1.8 Make-up Air, Ventilating and Exhaust Systems.

31.1.1.9 Control Systems.

31.1.1.10 Auxiliary Systems.

31.2 Existing (HOU) Central Plant Equipment

31.2.1 The Central Plant houses the Administration Offices for Contractor and the repair facilities for the Contractor's on-site staff. Contractor shall operate and maintain all systems in or associated with the Central Plant. A detailed listing of Central Plant Equipment is provided in The HVAC Equipment Inventory List Exhibit XI. The following is a general description of the existing Central Plant HVAC equipment.

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31.2.1.1 Hot Water Boilers

31.2.1.1.1 Two- (2) gas fired water tube boilers - capacity of 960 gal.

31.2.1.1.2 Two (2) HVAC hot water circulating pumps - 30 HP.

31.2.1.2 Domestic Water System

31.2.1.2.1 Water heater – 260,000 BTU.

31.2.1.2.2 Domestic hot water circulation pump – ½ HP.

31.2.1.3 Refrigeration Units – Centrifugal Water Chillers

31.2.1.3.1 Four York Chillers.

31.2.1.3.2 Four chilled water pumps, 1200 gpm @ 80Ft. head.

31.2.1.4 Chilled Water System

31.2.1.4.1 Five (5) secondary chilled water circulating pumps.

31.2.1.4.2 Chilled water expansion tanks.

31.2.1.4.3 Four primary chilled water pumps, 1200 gpm @ 80Ft. head.

31.2.1.5 Condenser Water System

31.2.1.5.1 Four Cell 1500 gpm cooling towers @ 96 F to 86 F.

31.2.1.5.2 Four 50 HP each cooling tower fan motors.

31.2.1.5.3 Four (4) Ceramic/cellular w/ 3' PVC tower cell fill. (500 tons Ea.).

31.2.1.5.4 Four (4) chilled water circulating pumps.

31.2.1.5.5 Four (4) chilled water circulation pumps, horizontal split case.

31.2.1.5.6 One (1) Condenser water filter system.

31.2.1.6 Refrigerant Recovery Unit - One (1) ¾ HP Low pressure recovery unit.

31.2.1.7 Condenser Tube Cleaner - One (1) pneumatic condenser tube cleaner.

31.2.1.8 Compressed Air Systems

31.2.1.8.1 Two (2) twin air compressor.

31.2.1.8.2 Air dryer.

31.3 (HOU) Main Terminal and Concourse Areas

31.3.1 The (HOU) Main Terminal Building houses the (HOU) Central Plant. The Main Terminal Building handles Ticketing and Baggage and presents access to Concourses A, and C. These concourses were built at separate times and have been expanded to and renovated within a number of times. Air handling systems currently serving the upper and lower terminal areas are principally constant volume and multi-zone types. For most multi-zone units, the Mechanical Rooms are a common return plenum. Newer air handling units use ducted returns. Units installed in recent years including the baggage claim areas, west end, and east end ramps are in good condition.

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- 31.3.2 Contractor shall operate and maintain all existing HVAC systems and equipment in or associated with the Terminal and Concourses, plus other Remote Facilities. The environmental systems utilized in the Terminal at (HOU) employ many different types of air conditioning systems, heating and ventilating units, heat transfer systems, etc. Contractor shall minimize exhaust air requirements and maximize outside air intake requirements to minimize fumes and humidity. A detailed listing of Terminal and Concourse equipment is provided in The HVAC Equipment Inventory List Exhibit XI.
- 31.4 Existing (HOU) Terminal and Concourse Equipment
- 31.4.1 The following is a general description of the HVAC equipment.
- 31.4.1.1 Air Handling Units/Filters.
- 31.4.1.1.1 Control Air Compressors.
- 31.4.1.1.2 Air Driers.
- 31.4.1.1.3 Exhaust/Circulating Fans.
- 31.4.1.1.4 Supply Fans.
- 31.4.1.1.5 Heating and Ventilating Units.
- 31.4.1.1.6 Hot Water Boilers.
- 31.4.1.1.7 Chilled Water Circulating Pumps.
- 31.4.1.1.8 Hot Water Circulating Pumps.
- 31.4.1.1.9 Outside Air Fans.
- 31.4.1.1.10 Exhaust Fans for Inside of Terminal Areas.
- 31.4.1.1.11 Unitary DX HVAC Equipment.
- 31.4.1.1.12 Fan Coil Units.
- 31.4.1.1.13 Air Curtains.
- 31.4.1.1.14 Air Distribution Devices.
- 31.4.1.1.15 (HOU) Energy Management and Control.
- 31.4.1.1.16 Existing Control Systems:
- 31.4.1.1.17 Existing Controls are a combination of electric/pneumatic and Metasys's DDC system. Some of these controls will all be demolished as a part of the renovation and expansion projects. Contractor shall maintain existing controls and make adjustments as required to make the construction phasing, sequencing and transitions as painless as possible. Contractor shall work with the construction Contractors to assure that existing controls are left in service until new controls are ready for service.
- 31.4.1.1.18 New Control Systems:
- 31.4.1.1.19 Bac-net protocols of Local Intelligent Control Panels are in place at (HOU) for each air handling system, the chillers, and heat exchangers. The local intelligent panels have stand-alone capability, and contain all programs necessary for equipment operation. The local intelligent panels will be able to interface with the centralized control system.
- 31.4.1.1.20 The control system is an open protocol BACnet Building Automation and Control System, which includes UES and Alerton. Included in the Hardware for the system is EMI/RFI remediation in component and control panel selection and in construction procedures. HAS requires all systems not BACnet to provide Owner release of the Propriety Protocol and to have a gateway for permitting full communication capabilities. Specific controls systems include:

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- 31.4.1.1.21 Chiller Controls
- 31.4.1.1.22 The factory installed unit mounted electronic control panel controls the chiller operation and provide for the safe operation of the chiller if the following conditions are encountered:
- 31.4.1.1.23 Cold condenser start.
- 31.4.1.1.24 Running with hot condenser water.
- 31.4.1.1.25 Low condenser water flow.
- 31.4.1.1.26 Hot evaporator start.
- 31.4.1.1.27 Return from momentary power losses in less than 1 minute.
- 31.4.1.1.28 Control panel is able to control the chiller's operation through diagnostics and diagnostic history that are time/date stamped. Diagnostics include among many others (1) sensor and switch faults, (2) excessive purge activity, (3) overload trips, (4) loss of flows, (5) high motor winding temperature.
- 31.4.1.1.29 The control panel is able to communicate with a BACnet Compatible Building Automation System.
- 31.4.1.1.30 Pump Control
- The BACnet Compatible Energy Management and Control System for the primary variable speed pump operation will be capable of performing the following:
- 31.4.1.1.30.1 Alternating pumps.
- 31.4.1.1.30.2 Staging pumps.
- 31.4.1.1.30.3 Controlling AFD speed.
- 31.4.1.1.30.4 Monitoring of motor performance.
- 31.4.1.1.30.5 PID functions and set point modifications.
- 31.4.1.1.30.6 Energy management through a de-coupled system.
- 31.5 HVAC Air Side Systems Controls
- 31.5.1 Variable Air Volume Air Handling Units includes a factory furnished and mounted direct digital control panel for temperature control and energy management function. The system includes electronic actuators for coil control valves, dampers and duct pressure sensors for variable fan speed operation. DDC controllers are of modular construction and be able to withstand vibrations if mounted inside the AHU. The system is capable of controlling all the air handling unit operational parameters including:
- 31.5.1.1 Discharge temperature reset.
- 31.5.1.2 Supply fan state control and status.
- 31.5.1.3 Supply/return air temperature monitoring and control.
- 31.5.1.4 Outdoor air flow monitoring control. (For 100% O.A. Units).
- 31.5.1.5 Night set back, warm-up and cooling down cycles.
- 31.5.1.6 Space and duct humidity control.
- 31.5.1.7 AQ monitoring through CO2 sensors with O.A. control.
- 31.5.1.8 Variable frequency drives control from static pressure transducer.
- 31.5.1.9 Optimum start/stop, soft start.
- 31.5.1.10 Fan over pressurization safety switch.

SPECIFICATIONS / SCOPE OF WORK

SOLICITATION NO.: S33-T23961

- 31.5.1.11 Smoke control functions.
- 31.5.1.12 Chilled and hot water valves control.
- 31.5.1.13 Fan Operation status.
- 31.5.1.14 Filter status.

- 31.6 Inter-operability with BACnet-Compatible Building Management Systems
- 31.6.1 Constant Volume Air Handling Units are controlled by a general type direct digital control system for temperature control and energy management functions. DDC controllers are of modular construction and be able to withstand vibrations if mounted inside the AHU.
- 31.6.2 Variable Air Volume Modules are controlled using a general type direct digital control system. Individual space temperature sensors as part of a sensor group will be used as an input for a master zone controller.

- 31.7 Compressor Air System
- 31.7.1 The existing air compressor is providing air for the existing pneumatic control systems.

- 31.8 Performance Requirements – (HOU) Main Terminal and Concourses.
- 31.8.1 General – The Terminal Building is supplied primary heating and cooling mediums from the Central Plant facility. The systems are designed to maintain 74 °F ± 2°F indoor temperature through wide variations of outdoor temperature utilizing chilled and hot water. The mediums are conveyed through various piping throughout the terminal. The system should be capable of supplying chilled water at 42°F on demand with no less than 42.5°F at the coil, and hot water should be delivered at a temperature of 165°F. Hot water for domestic use and kitchen use is converted by shell and tube heat exchangers. HAS will select Primary and Domestic Hot Water Temperature setting. Contractor shall maintain all primary water, air, and secondary air systems to meet design performance requirements.
- 31.8.2 Special Conditions
- 31.8.2.1 HVAC Design Conditions. Carrier E20-11 cooling load calculation program was used to calculate the building cooling/heating block load. The air conditioning system is designed to maintain the specified indoor conditions at the specified outdoor weather conditions.

Outdoor Conditions

Summer:	97° F DB	77° F WB
Winter:	28° F DB	

These temperatures are based on ASHRAE 1% design conditions.

Indoor Conditions

Area Designation	<u>Cooling</u> RH Control	<u>Heating</u> RH Control
Concourses, Baggage Claim, Gates, Ticketing	74°Fdb±1°F No RH Control	74°Fdb±1°F No RH Control
Office & Other Areas	74°Fdb±1°F 50% RH±5%	74°Fdb±1°F No RH Control

SPECIFICATIONS / SCOPE OF WORK SOLICITATION NO.: S33-T23961
--

Mechanical Rooms	104°F (Max) No RH Control	60°F DB No RH Control
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The Total Estimated Building Cooling Loads:

Ticketing Building Lower (Level 1)	650 tons
Ticketing Building Upper (Level 2)	450 tons
Central Concourse	1,150 tons
Central Concourse expansion –	100 tons
Bridge	50 tons
Total	2,400 tons

- 31.8.2.2 A central dedicated ventilation unit will handle transmission and internal loads. Unit is a modular double skin construction complete with a centrifugal or airfoil supply fan section, cooling coil section with copper coil/copper fin construction, a heating coil section with copper coil/copper fin construction, an access door section wide enough to allow for adequate maintenance, a filter section comprising a 2" thick 30% efficiency pre-filter section, an electric excitation field and a 12" thick 85% efficiency cartridge filter, and a mixing box with O.A. measuring station (VAV units only).
- 31.8.2.3 An airflow measuring probe station is mounted on the supply ducts to provide for flow balancing and measuring.
- 31.8.2.4 A dedicated outdoor air handling unit (O.A. AHU) will handle the outside air sensible and latent loads. This unit is of modular double skin construction complete with copper coil/copper fin cooling coil section, a copper coil/copper fin heating section, an 85% efficiency 12" cartridge filter section, and a centrifugal fan supply section. A 2-speed fan motor is used and controlled through return air duct mounted CO₂ sensors. The O.A. AHU is complete with unit-mounted starters and DDC control panel for its operation. Two-way modulating temperature control valves with electric actuators and automatic flow control valves are used to control chilled water flow. Three-way control valves are used on the most remote units in the loop to prevent loss of flow conditions.
- 31.8.2.5 Outbound Baggage Handling Areas. Fresh outside air from a clean source are carried and supplied to dedicated O.A. AHUs in the baggage handling areas. Air will then be treated and tempered to a minimum temperature of 65°F in summer and maximum of 75°F in winter and supplied through a duct distribution system to spot cool the work areas. Drum louvers with adjustable cylindrical drums are used to adjust for season change air pattern distribution. Air delivery will be at a speed of 1,500 FPM. Redundancy will be used as each conveyor belt is supplied by two overhead supply air ducts from two independent units.
- 31.8.2.6 Baggage Claim Conveyor Belt Area. Air curtains are installed on all baggage claim area conveyor belts to prevent air infiltration from the tug drive area. Air curtains are interlocked with the security door operation.
- 31.8.2.7 Ventilation for Toilet Rooms. Toilet room ventilation is designed to come from adjacent areas. Hence, Contractor shall maintain toilet areas at negative pressure conditions at all times. The air requirement for ventilation will be the highest of the following:
 - 31.8.2.7.1 CFM/sq. ft. of toilet room floor areas.
 - 31.8.2.7.2 15 ACH in the toilet room areas.
 - 31.8.2.7.3 50 CFM/WC or 50 CFM/Urinal.
- 31.8.2.8 Backwardly inclined in-line centrifugal exhausters are used to push the air outdoors. For VAV air handling systems, Contractor shall coordinate operation of the exhausters with the air handling system operation to avoid building loss of pressurization problems.

SPECIFICATIONS / SCOPE OF WORK
SOLICITATION NO.: S33-T23961

31.8.2.9 Concession Kitchen Ventilation. Make-up air provided for the concession areas exhaust will not be provided from adjoining spaces. Concession vendors will supply all make-up air quantity required for the kitchen exhaust equipment. Vendors will supply the heating, ventilation and air condition equipment. Chilled/heating water supply and return tapings will be only provided for concession vendor's use. To provide for tenant billing, energy or BTU meters will be used for each independent tenant. Flow meter and temperature sensors in the supply/return piping are installed and connected to the BTU meter.

31.9 (HOU) - BUILDING AT 8800 PAUL B. KOONCE BOULEVARD

31.9.1 HVAC Equipment – Building at 8800 Paul B. Koonce Boulevard

Contractor shall operate and maintain all HVAC systems in or associated with the building at 8800 Paul B. Koonce Boulevard (former FAA facility). A detailed listing of Equipment is provided in The HVAC Equipment Inventory List Exhibit XI. HVAC equipment includes, but is not limited to, the following:

31.9.1.1 Packaged Chiller.

31.9.1.2 Air Cooled Condensing Unit.

31.9.1.3 Air Handling Units.

31.9.1.4 Air Handling Unit Filters.

31.9.1.5 Air Handling Unit Interlocks.

31.9.1.6 Ventilating Fans with thermostats, speed controls, etc.

31.9.1.7 Fire Dampers.

31.9.1.8 Electric Duct Heaters.

31.9.1.9 Gas-Fired Hot Water Boiler Unit.

31.9.1.10 Air Distribution Devices.

31.9.1.11 Volume Dampers.

31.9.2 Performance Requirements – Building at 8800 Paul B. Koonce Boulevard

31.9.2.1 Contractor shall operate the HVAC system to maintain a year-round interior ambient of 74 ± 2 degrees F temperature and $50\% + 5\%$ relative humidity within the building envelope.

31.10 (HOU) Remote Buildings/Facilities

31.10.1 Contractor shall maintain the HVAC equipment in several remote buildings and structures at the Airport. Remote buildings and structures that include, but are not limited to, the following.

31.10.1.1 Public Safety/TSA/H.P.D. and Facilities Administration buildings.

31.10.1.2 Fire Station No. 81.

31.10.1.3 Airfield & Grounds Building.

31.10.1.4 Vehicle Maintenance Shop.

31.10.1.5 North Ramp Electrical Vault.

31.10.1.6 South Ramp Electrical Vault.

31.10.1.7 Cab Drivers' Break Room.

31.10.1.8 Parking Garage Ground Transport Building.

31.10.1.9 Electrical Hangar.

SPECIFICATIONS / SCOPE OF WORK
SOLICITATION NO.: S33-T23961

- 31.10.1.10 Guard Shacks (N7 & N26).
- 31.10.1.11 Fuel Farm A/C Unit.
- 31.10.1.12 All domestic water pumps.
- 31.10.1.13 All circulating pumps.

31.11 Remote HVAC Equipment

31.11.1 Contractor shall operate and maintain all HVAC systems in or associated with the remote buildings and structures. A detailed listing of Remote Equipment is provided in The HVAC Equipment Inventory List Exhibit XI. Remote HVAC equipment includes, but is not limited to, the following:

- 31.11.1.1 Air Cooled Condenser Units.
- 31.11.1.2 Air Handler Units.
- 31.11.1.3 Fan Coil Units.
- 31.11.1.4 Gas Flow Furnaces.
- 31.11.1.5 Forced Air Furnaces.
- 31.11.1.6 Boiler.
- 31.11.1.7 Air Compressor w/air dryer.

31.12 Performance Requirements – Remote Facilities

31.12.1 The HVAC system should maintain a year-around interior ambient of 75 degrees temperature and 50% relative humidity within the building envelope.

31.13 Miscellaneous DX Equipment at (HOU)

31.13.1 The (HOU) airport system includes certain buildings housing both HAS employees and airport tenants that fall outside the chilled water closed loop system, the building at 8800 Paul B. Koonce Boulevard, and Remote Buildings/Facilities. The designation (DX) in these documents identify those specific stand alone systems for which O&M HVAC services for which Contractor is responsible to operate and maintain. The systems in these facilities range from stand-alone 3/4-ton window units to complete packaged heating and cooling units.

31.14 Miscellaneous (DX) HVAC Equipment

31.14.1 Contractor shall maintain certain DX HVAC equipment. A detailed listing of Miscellaneous (DX) HVAC Equipment is provided in The HVAC Equipment Inventory List, Exhibit XI.

- 31.14.1.1 Window Units.
- 31.14.1.2 Packaged Units.
- 31.14.1.3 Roof Unit.
- 31.14.1.4 Blower Unit.

31.15 Performance Requirements - Miscellaneous (DX)

31.15.1 The HVAC system should maintain a year-around interior ambient of 74°F + 1°F temperature and in summer a 50% + 5% relative humidity within the building envelope.

SPECIFICATIONS / SCOPE OF WORK
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31.16 (HOU) Offices under the East and West U-Ramp

31.16.1 The HVAC equipment comprised within vacant offices under the East U-Ramp and PPM offices under the West U-Ramp are fan coil units. A detailed list of the equipment to be maintained is provided in The HVAC Equipment Inventory List, Exhibit XI.

32.0 ESTIMATED RENOVATION, UPGRADE, EXPANSION AND DEMOLITION WORK:

32.1 (IAH)

32.1.1 Project 621- Central Plant expansion - Construction to provide up to two (2) 50,000 pounds per hour boilers and associated equipment, pumps etc. and up to one 3,000 ton electric chiller and associated equipment, pumps etc. (Estimate project will start within 2-years).

32.1.2 Project 500N- T-D Renovations- Construction to remove existing Andover DDC control system and replace with a Bac-net non proprietary system. (Estimate project will start within 4-years).

32.1.2.1 Exhaust and pumping systems may be upgraded to include existing AHU'S.

32.1.3 Project 520- ASC expansion including new Fleet offices and work bays. New equipment will include heaters, DX units, AHU's etc. (Estimate project will start within 5-years).

32.2 (HOU)

32.2.1 Project 445- A&G expansion including a new building to house Grounds personnel, offices and a new Fleet building. New equipment will include heaters, DX units, Air Handling Units (AHU) etc. (Estimate project will start within 4-years)

32.2.2 Current expansion of the Central concourse on the East side is ongoing and includes new AHU's, pumps, etc.

32.3 (EFD)-None

33.0 CONTRACTOR RESPONSIBILITY DURING IMPLEMENTATION OF NEW FACILITIES AND/OR EQUIPMENT (IAH), (HOU) & (EFD)

33.1 As part of the Basic Services, Contractor shall cooperate with HAS and or/Contractor to meet operational and capacity requirements during renovations, upgrades, expansion, and demolitions for any future projects. Contractor shall provide optimum system operations during any construction /project work to meet additional cooling and heating load requirements from on-line facilities, systems, and equipment as new systems and equipment are being readied to come on line for full cooling and heating operating service.

33.2 Upon issuance of a certificate of substantial completion and/or beneficial use and the equipment is put into revenue service the Contractor shall take full responsibility of equipment maintenance and manage any warranties in effect.

34.0 ENERGY MANAGEMENT - (IAH), (HOU) & (EFD)

34.1 At the inception of Project 621, any payments will cease for Energy Management Savings. After completion of Project 621, an eighteen (18) month base line shall be established for any renewal of credits. Estimated Project 621 completion is thirty (30) months.

34.2 Propose a detailed description for:

34.2.1 Operating the chiller equipment and system in a manner to utilize the energy source (gas for steam turbine drive versus electric drive chillers), which produces the lowest cost per ton. (IAH only).

SPECIFICATIONS / SCOPE OF WORK
SOLICITATION NO.: S33-T23961

- 34.2.2 Optimizing energy usage, balancing operating hours on all equipment, and determining optimum modes of operations for all HVAC SYSTEMS.
- 34.2.3 Exploring Load share plans.
- 34.2.4 Evaluating energy usage and identifying opportunities for efficiencies/savings.
- 34.2.5 Maintaining reserve cooling/heating capacities and balancing equipment operating hours.
- 34.2.6 Identifying and implementing additional energy conservation strategies.
- 34.2.7 Periodic exercising all major equipment in the Central Plants.
- 34.2.8 Operating and maintaining HVAC SYSTEMS and monitoring and controlling performance related items at optimum efficiency for control including but not limited to the following:
 - 34.2.8.1 Management control system(s).
 - 34.2.8.2 Fuel/Air ratio (excess air) in boiler firing.
 - 34.2.8.3 Blow-off and Blow-downs of boilers.
 - 34.2.8.4 Blow-down on cooling tower systems.
 - 34.2.8.5 De-aerator venting and operating pressure.
 - 34.2.8.6 Operation of constant and variable speed parallel pumping units.
 - 34.2.8.7 Operation of cooling towers and fans.
 - 34.2.8.8 Centrifugal chiller oil analysis.
 - 34.2.8.9 Water softening system.
 - 34.2.8.10 Monitoring of Cathodic protection.
- 34.3 Propose shared savings/incentives that includes, but is not limited to:
 - 34.3.1 Methods of tracking and identifying savings.
 - 34.3.2 Auditing utility bills.
- 34.4 Contractor shall reduce energy usage without adversely impacting tenant comfort using the following approaches:
 - 34.4.1 A comprehensive maintenance program that helps to ensure that equipment and systems are running at peak efficiency.
 - 34.4.2 High efficiency rated replacement parts.
 - 34.4.3 BAS control software must be regularly adjusted to provide maximum benefit from free cooling and outside air-reset technologies.

SPECIFICATIONS / SCOPE OF WORK
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35.0 PERFORMANCE BOND

35.1 The successful Contractor shall furnish and maintain a Performance Bond for \$1,000,000 conditioned on Contractor's full and timely performance of the Agreement. The bond will be renewed annually on the anniversary date of the contract award each Agreement Year. The Agreement Term shall be five years.

The Performance Bond shall be in the same form as that distributed by the City, and attached hereto as Exhibit "M," all duly executed by this bidder (as "Principal") and by a corporate surety company licensed to do business in the State of Texas. The surety must be listed on the current list of accepted sureties on federal bonds published by the United States Treasury Department.

36.0 GENERAL COMFORMINTY QUESTIONNAIRE

36.1 Contractor shall complete Exhibit XIII and include with proposal document.

37.0 INCLUSION/EXCLUSION FORM

37.1 Contractor shall review Exhibit XIV and retain for future use.

PROPOSAL OUTLINE AND MINIMUM CONTENT REQUIREMENTS

NO.: S33-T23961

To simplify the review process and to obtain the maximum degree of comparability, the Proposal must follow the outline as set forth below and, at a minimum, contain the information as requested. Offeror(s) are encouraged to include additional relevant information.

1.0 TITLE PAGE

1.1 The title page should include the title and number of the RFP, name and address of the Offeror(s), and the date of the Proposal.

2.0 OFFER & SUBMITTAL FORM

2.1 PROPOSAL MUST BE SIGNED AND NOTORIZED BY AN AUTHORIZED REPRESENTATIVE(S) OF THE PROPOSER, WHICH MUST BE THE ACTUAL LEGAL ENTITY THAT WILL PERFORM THE CONTRACT IF AWARDED AND THE TOTAL FIXED PRICE CONTAINED THEREIN SHALL REMAIN FIRM FOR A PERIOD OF ONE-HUNDRED EIGHTY (180) DAYS.

3.0 LETTER OF TRANSMITTAL

3.1 A letter of transmittal shall include the following:

3.1.1 The names, titles, addresses, and telephone numbers of the individuals who are authorized to make representation on behalf of the Offeror.

3.1.2 A statement that the per-unit proposed price and/or lump sum (if prices are proposed) is the total fixed price for the equipment and services enumerated.

3.1.3 A statement that the person signing the letter of transmittal is authorized to legally bind the Offeror; that the Proposal and the total fixed price contained therein shall remain firm for a period of one hundred-eighty (180) days, and that the Proposal will comply with the requirements and arrangements stated in the RFP.

4.0 EXPERTISE/EXPERIENCE/QUALIFICATION STATEMENT

4.1 Provide a brief statement describing the Offeror's background information, history, resources and/or track record. Please limit to three (3) pages.

4.2 Provide an organizational chart of proposed team or staff for this project.

4.3 Provide resumes of key personnel whom will be responsible for the delivery of the services/project.

4.4 Provide copies of key personnel certifications and/or licenses.

5.0 PROPOSED STRATEGY AND OPERATIONAL PLAN

5.1 Provide a detailed description and methodology of the proposed plan for RFP NAME, which should include, but not be limited to the following:

5.1.1 A brief statement of the Offeror understanding of the work to be done; and

5.1.2 A detailed description that clearly defines the method of approach that will be utilized in the successful achievement of the RFP's intended Scope of Work.

PROPOSAL OUTLINE AND MINIMUM CONTENT REQUIREMENTS

NO.: S33-T23961

6.0 PROPOSED EQUIPMENT (Optional)

6.1 Provide complete equipment description, design, functions, and technical specifications that are being proposed for usage.

7.0 FINANCIAL STATEMENTS

7.1 Submit your company's **audited annual financial statements**, in accordance with and as defined in the Financial Accounting Standards Board (FASB) regulation(s) for the past two years. In addition, include your and Dunn & Bradstreet Report or Federal Tax Forms Filed to the Internal Revenue Service (IRS) for the past two years.

8.0 CONTENTS

8.1 The contents should be identified by section, description, page number, and should include, at a minimum, the following sections:

8.1.1 Title Page

8.1.2 Signed and Notarized Offer and Submittal Form (Exhibit I)

8.1.3 Letter of Transmittal

8.1.4 Expertise/Experience/Reliability Statement

8.1.5 Organizational Chart, Resumes and Certifications/Licenses of Proposed Key Personnel

8.1.6 Proposed Strategy/Operational Plan

8.1.7 Proposed Equipment (If Applicable)

8.1.8 Financial Statement and Dunn & Bradstreet Reports or Federal Tax Forms Filed for Past Two Years

8.1.9 Signed M/WBE Forms: Attachment "A" Schedule of M/WBE Participation, and Attachment "B" Letter of Intent (Exhibit II)

8.1.10 List of References and List of Proposed Subcontractors (Exhibit I)

8.1.11 Pricing Form/Fee Schedule (Exhibit III)

8.1.12 Fair Campaign Ordinance Form "A" (Exhibit V)

8.1.13 Affidavit of Ownership or Control (Exhibit VI)

8.1.14 Drug Compliance Agreement Attachment "A" and Contractor's Certification of No Safety Impact Positions Attachment "C" (Exhibit VII)

8.1.15 Anti-Collusion Statement (Exhibit VIII)

8.1.16 Conflict of Interest Questionnaire (Exhibit IX)

8.1.17 City Contractors' Pay or Play Acknowledgement Form (Exhibit X)

8.1.18 Requested Information Outlined in the Scope of Work and Other Additional Relevant/Supporting Information (i.e., Exhibit XIII, General Conformity Questionnaire or Alternate Proposal)

EVALUATION & SELECTION PROCESS

NO.: S33-T23961

1.0 EVALUATION SUMMARY

The committee will arrive at a short list of respondents and these short listed respondents may be scheduled for a structured oral presentation and interview. Such presentations will be at no cost to the City of Houston. At the end of the oral presentation and interview, the evaluation of the short listed respondents will be completed. The oral interview may be recorded and/or videotaped

2.0 SELECTION PROCESS

2.1 The award of this contract(s) will be made to the respondent(s) offering the response which best meets the needs of the City. The City may make investigations, as it deems necessary, to determine the capabilities of the Contractor to create, modify and implement the required application modules. The Contractor shall furnish to the City such data as the City may request for this purpose. The City reserves the right to reject any offer if the evidence submitted by or the investigation of the Contractor fails to satisfy the City that the Contractor is properly qualified to provide the services contemplated. Each respondent will be evaluated on the basis of the following evaluation criteria that are listed in order of importance below:

2.1.1	TECHNICAL APPROACH & MANAGEMENT PLAN	30%
2.1.2	PRICE	25%
2.1.3	EXPERIENCE & REPUTATION	20%
2.1.4	GENERAL CONFORMITY WITH RFP REQUIREMENTS	10%
2.1.5	ABILITY TO SUPPLY AND FULLY IMPLEMENT MMS	5%
2.1.6	FINANCIAL STRENGTH & STABILITY	5%
2.1.7	MWDBE PARTICIPATION	5%
	TOTAL:	100%

**EXHIBIT I – OFFER AND SUBMITTAL, REFERENCES,
PROPOSED SUBCONTRACTORS
SOLICITATION NO.: S33-T23961**

EXHIBIT I - OFFER AND SUBMITTAL
SOLICITATION NO.: S33-T23961

NOTE: PROPOSAL MUST BE SIGNED AND NOTORIZED BY AN AUTHORIZED REPRESENTATIVE(S) OF THE PROPOSER, WHICH MUST BE THE ACTUAL LEGAL ENTITY THAT WILL PERFORM THE CONTRACT IF AWARDED AND THE TOTAL FIXED PRICE CONTAINED THEREIN SHALL REMAIN FIRM FOR A PERIOD OF ONE-HUNDRED EIGHTY (180) DAYS.

"THE RESPONDENT WARRANTS THAT NO PERSON OR SELLING AGENCY HAS BEEN EMPLOYED OR RETAINED TO SOLICIT OR SECURE THIS CONTRACT UPON AN AGREEMENT OR UNDERSTANDING FOR A COMMISSION, PERCENTAGE, BROKERAGE, OR CONTINGENT FEE, EXCEPTING BONA FIDE EMPLOYEES. FOR BREACH OR VIOLATION OF THIS WARRANTY, THE CITY SHALL HAVE THE RIGHT TO ANNUL THIS AGREEMENT WITHOUT LIABILITY OR, AT ITS DISCRETION, TO DEDUCT FROM THE CONTRACT PRICES OR CONSIDERATION, OR OTHERWISE RECOVER THE FULL AMOUNT OF SUCH COMMISSION, PERCENTAGE, BROKERAGE OR CONTINGENT FEE."

Respectfully Submitted:

(Print or Type Name of Contractor – Full Company Name)

City of Houston Vendor No. (If already doing business with City): _____

Federal Identification Number: _____

By: _____
(Signature of Authorized Officer or Agent)

Printed Name: _____

Title: _____

Date: _____

Address of Contractor: _____
Street Address or P.O. Box

City – State – Zip Code

Telephone No. of Contractor: (_____) _____

Signature, Name and title of Affiant: _____

(Notary Public in and for)

_____ County, Texas

My Commission Expires: _____ day of _____ 20_____

EXHIBIT I – REFERENCES
SOLICITATION NO.: S33-T23961

LIST OF PREVIOUS CUSTOMERS

1. Company Name: _____
Contact Person/Title: _____ Phone No.: _____
Address: _____
Contract Award Date: _____ Contract Completion Date: _____
Contract Name/Title: _____
System Description: _____

2. Company Name: _____
Contact Person/Title: _____ Phone No.: _____
Address: _____
Contract Award Date: _____ Contract Completion Date: _____
Contract Name/Title: _____
System Description: _____

3. Company Name: _____
Contact Person/Title: _____ Phone No.: _____
Address: _____
Contract Award Date: _____ Contract Completion Date: _____
Contract Name/Title: _____
System Description: _____

4. Company Name: _____
Contact Person/Title: _____ Phone No.: _____
Address: _____
Contract Award Date: _____ Contract Completion Date: _____
Contract Name/Title: _____
System Description: _____

EXHIBIT I – REFERENCES
SOLICITATION NO.: S33-T23961

5. Company Name: _____
Contact Person/Title: _____ Phone No.: _____
Address: _____
Contract Award Date: _____ Contract Completion Date: _____
Contract Name/Title: _____
System Description: _____

**EXHIBIT II – MINORITY/WOMEN BUSINESS ENTERPRISES
CONTRACT REQUIREMENTS
SOLICITATION NO.: S33-T23961**

**EXHIBIT II – ATTACHMENT “A”: SCHEDULE OF M/WBE PARTICIPATION
SOLICITATION NO.: S33-T23961**

DATE OF REPORT: _____

NO.: _____

FORMAL BID TITLE: _____

NAME OF MINORITY/WOMEN SUBCONTRACTOR	AFFIRMATIVE ACTION DIVISION CERTIFICATION NO.	STREET ADDRESS AND CITY, STATE, ZIP CODE	TELEPHONE NO.	SCOPE OF WORK	AGREE PRICE
TOTAL.....					\$ _____
M/WBE PARTICIPATION AMOUNT.....					\$ _____%
TOTAL BID AMOUNT.....					\$ _____

**EXHIBIT II – ATTACHMENT “A” (CONTINUED): SCHEDULE OF M/WBE PARTICIPATION
SOLICITATION NO.: S33-T23961**

IF YOU HAVE USED YOUR BEST EFFORTS TO CARRY OUT THE CITY’S M/WBE POLICY BY SEEKING SUBCONTRACTS AND SUPPLY AGREEMENTS WITH MINORITY AND WOMEN BUSINESS ENTERPRISES, YET FAILED TO MEET THE STATED PERCENTAGE GOAL OF THIS BID DOCUMENT, LIST BELOW YOUR GOOD FAITH EFFORTS FOR COMPLIANCE (DEFINITION OF REQUIREMENTS CAN BE OBTAINED THROUGH AFFIRMATIVE ACTION AT (713) 837-9000).

THE UNDERSIGNED WILL ENTER INTO A FORMAL AGREEMENT WITH THE MINORITY AND/OR WOMEN SUBCONTRACTORS AND SUPPLIERS LISTED IN THIS SCHEDULE CONDITIONED UPON AWARD OF A CONTRACT FROM THE CITY.

NOTE:
ALL FIRMS LISTED ABOVE MUST BE CERTIFIED (OR ELIGIBLE FOR CERTIFICATION) BY THE AFFIRMATIVE ACTION DIVISION.
THIS SCHEDULE OF M/WBE PARTICIPATION SHOULD BE RETURNED, IN DUPLICATE, WITH THE BID FORM.

BIDDER COMPANY NAME

SIGNATURE OF AUTHORIZED OFFICER OR AGENT OF BIDDER

NAME (TYPE OR PRINT)

TITLE

**EXHIBIT II – ATTACHMENT “B”: M/WBE LETTER OF INTENT
SOLICITATION NO.: S33-T23961**

THIS AGREEMENT IS SUBJECT TO BINDING ARBITRATION ACCORDING TO THE TEXAS GENERAL ARBITRATION ACT.

TO: **City of Houston
City Purchasing Agent**

MINORITY/WOMEN BUSINESS ENTERPRISE (M/WBE) AND SUPPLIER

LETTER OF INTENT

Contract Bid Number: _____

Bid Title: _____

Bid Amount: _____

M/WBE Participation Amount: \$ _____ **M/WBE GOAL** _____ %

2.0 _____ agrees to perform work/supply goods and/or
(Name of Minority/Women Business Enterprise)
Services in connection with the above-named contract and _____ as:
Name of Prime Contractor

- (a) _____ An Individual
- (b) _____ A Partnership
- (c) _____ A Corporation
- (d) _____ A Joint Venture

2. _____ status is confirmed by M/WBE Director and/or designee
made
(Name of Minority/Women Business Enterprise)
available through the City of Houston Affirmative Action Division. Certificate No.: _____.

3. _____ and _____
(Name of Prime Contractor) **(Minority/Women Business Enterprise)**
intend to work on the above-named contract in accordance with the M/WBE Participation Section of the
City of Houston Contract Bid Provision.

The Terms & Conditions of Attachment “C” attached hereto are incorporated into this Letter of Intent for all purposes.

(Signed -- Prime Contractor)

(Signed -- Minority/Women Business Enterprise)

(Title)

(Title)

(Date)

(Date)

**EXHIBIT II – ATTACHMENT “C”: CERTIFIED M/WBE SUBCONTRACT TERMS
SOLICITATION NO.: S33-T23961**

Contractor shall insure that all subcontracts with M/WBE subcontractors and suppliers are clearly labeled “**THIS CONTRACT IS SUBJECT TO BINDING ARBITRATION ACCORDING TO THE TEXAS GENERAL ARBITRATION ACT**” and contain the following terms:

1. _____ (M/WBE subcontractor) shall not delegate or subcontract more than 50% of the work under this subcontract to any other subcontractor or supplier without the express written consent of the City of Houston’s Affirmative Action Director and/or designee (“the Director and/or designee”).
2. _____ (M/WBE subcontractor) shall permit representatives of the City of Houston, at all reasonable times, to perform 1) audits of the books and records of the subcontractor, and 2) inspections of all places where work is to be undertaken in connection with this subcontract. Subcontractor shall keep such books and records available for such purpose for at least four (4) years after the end of its performance under this subcontract. Nothing in this provision shall affect the time for bringing a cause of action nor the applicable statute of limitations.
3. Within five (5) business days of execution of this subcontract, Contractor (prime Contractor) and Subcontractor shall designate in writing to the Director and/or designee an agent for receiving any notice required or permitted to be given pursuant to Chapter 15 of the Houston City Code of Ordinances, along with the street and mailing address and phone number of such agent.
4. As conclude by the parties to this subcontract, and as evidenced by their signatures hereto, any controversy between the parties involving the construction or application of any of the terms, covenants or conditions of this subcontract shall, on the written request of one party served upon the other or upon notice by Director and/or designee served on both parties, be submitted to binding arbitration, under the Texas General Arbitration Act (Tex. Civ. Prac. & Rem. Code Ann., Ch. 171 – “the Act”). Arbitration shall be conducted according to the following procedures:
 - a. Upon the decision of the Director and/or designee or upon written notice to the Director and/or designee from either party that a dispute has arisen, the Director and/or designee shall notify all parties that they must resolve the dispute within thirty (30) days or the matter may be referred to arbitration.
 - b. If the dispute is not resolved within the time specified, any party or the Director and/or designee may submit the matter to arbitration conducted by the American Arbitration Association under the rules of the American Arbitration Association, except as otherwise required by the City’s contract with American Arbitration Association on file in the Office of the City’s Affirmative Action Division.
 - c. Each party shall pay all fees required by the American Arbitration Association and sign a form releasing the American Arbitration Association and its arbitrators from liability for decisions reached in the arbitration.
 - d. In the event the American Arbitration Association no longer administers Affirmative Action arbitration for the City, the Director and/or designee shall prescribe alternate procedures as necessary to provide arbitration by neutrals in accordance with the requirements of Chapter 15 of the Houston City Code of Ordinances.

These provisions apply to goal oriented contracts. A goal oriented contract means any contract for the supply of goods or non-personal or non-professional services in excess of \$100,000.00 for which competitive bids are required by law; not within the scope of the MBE/WBE program of the United States Environmental Protection Agency on the United States Department of Transportation; and ;, which the City Purchasing Agent has determined to have significant M/WBE subcontracting potential in fields which there are an adequate number on known MBE’s and/or WBE’s to compete for City contract.

The M/WBE policy of the City of Houston will discussed during the pre-bid. For information assistance, and/or to receive a copy of the City’s Affirmative action policy and/or ordinance contact the Affirmative Action Division at (713) 837-9000, 611 Walker, 20th Floor, Houston, Texas.

**EXHIBIT II – ATTACHMENT “D”: AFFIRMATIVE ACTION AND
CONTRACT COMPLIANCE M/WBE UTILIZATION REPORT
SOLICITATION NO.: S33-T23961**

Report Period: _____

PROJECT NAME & NUMBER: _____

AWARD DATE: _____

PRIME CONTRACTOR: _____

CONTRACT NO.: _____

ADDRESS: _____

CONTRACT AMOUNT: _____

LIAISON/PHONE NO.: _____

M/WBE GOAL: _____

M/WBE SUB/VENDOR NAME	DATE OF A.A. CERTIFICATION	DATE OF SUBCONTRACT	SUBCONTRACT AMOUNT	% OF TOTAL CONTRACT	AMOUNT PAID TO DATE	% OF CONTRACT TO DATE

Use additional pages if needed. Submit by the 15th day of the following month.
Provide support documentation on all revenues paid to end of the report period to:
M/WBE's to reflect up/down variances on Contract amount.

Affirmative Action Division
ATTN: Velma Laws 713-837-9018
611 Walker, 20th Floor
Houston, Texas 77002

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

For the prices quoted, Contractor shall furnish all necessary labor, equipment, material, supplies, personnel, services, and all activity necessary for, or incidental, to perform the Work as specified in the Proposal. Price sheets by Proposal Years (1-5) must be completed in their entirety with no blanks and entered on the appropriate lines of the summary Sheet(s).

All quantities listed are estimated quantities for budgetary purposes only. The actual quantities may be higher or lower than any estimates, and Contractor shall be paid only for actual Work performed, subject to prior HAS direction and approval.

YEARS (1- 5) SAMPLE PRICE SHEET TOTAL SUMMARY

YEAR ONE RATES – PROPOSAL PRICE SHEET TOTAL SUMMARY

I-a.	Total Basic Services (IAH)	\$ _____
I-b.	Total Basic Services (HOU)	\$ _____
I-c.	Total Basic Services (EFD)	\$ _____
II-a.	Total Other Work/Services (IAH)	\$ _____
II-b.	Total Other Work/Services (HOU)	\$ _____
II-c.	Total Other Work/Services (EFD)	\$ _____
TOTAL BASIC SERVICES & OTHER WORK /SERVICES YEAR ONE RATES (IAH)(HOU)&(EFD)		\$ _____

YEAR TWO RATES – PROPOSAL PRICE SHEET TOTAL SUMMARY

I-a.	Total Basic Services (IAH)	\$ _____
I-b.	Total Basic Services (HOU)	\$ _____
I-c.	Total Basic Services (EFD)	\$ _____
II-a.	Total Other Work/Services (IAH)	\$ _____
II-b.	Total Other Work/Services (HOU)	\$ _____
II-c.	Total Other Work/Services (EFD)	\$ _____
TOTAL BASIC SERVICES & OTHER WORK /SERVICES YEAR TWO RATES (IAH)(HOU)&(EFD)		\$ _____

YEAR THREE RATES – PROPOSAL PRICE SHEET TOTAL SUMMARY

I-a.	Total Basic Services (IAH)	\$ _____
I-b.	Total Basic Services (HOU)	\$ _____
I-c.	Total Basic Services (EFD)	\$ _____
II-a.	Total Other Work/Services (IAH)	\$ _____
II-b.	Total Other Work/Services (HOU)	\$ _____
II-c.	Total Other Work/Services (EFD)	\$ _____
TOTAL BASIC SERVICES & OTHER WORK / SERVICES YEAR THREE RATES (IAH)(HOU)&(EFD)		\$ _____

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

YEAR FOUR (OPTION YEAR 1) RATES – PROPOSAL PRICE SHEET TOTAL SUMMARY

- I-a. Total Basic Services (IAH) \$ _____
- I-b. Total Basic Services (HOU) \$ _____
- I-c. Total Basic Services (EFD) \$ _____

- II-a. Total Other Work/Services (IAH) \$ _____
- II-b. Total Other Work/Services (HOU) \$ _____
- II-c. Total Other Work/Services (EFD) \$ _____

TOTAL BASIC SERVICES & OTHER WORK /SERVICES OPTION YEAR 1 RATES (IAH)(HOU)&(EFD) \$ _____

YEAR FIVE (OPTION YEAR 2) RATES – PROPOSAL PRICE SHEET TOTAL SUMMARY

- I-a. Total Basic Services (IAH) \$ _____
- I-b. Total Basic Services (HOU) \$ _____
- I-c. Total Basic Services (EFD) \$ _____

- II-a. Total Other Work/Services (IAH) \$ _____
- II-b. Total Other Work/Services (HOU) \$ _____
- II-c. Total Other Work/Services (EFD) \$ _____

TOTAL BASIC SERVICES & OTHER WORK /SERVICES OPTION YEAR 2) RATES (IAH)(HOU)&(EFD) \$ _____

FIVE YEAR GRAND TOTAL	\$ _____
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The Above Rates Are “Summary “Roll-Up” Pricing” From Attached Pages Of The Proposal Price Sheet.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR ONE – (IAH) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____

(IAH) BASIC SERVICES TOTAL ITEMS * \$ _____
(A-1 Thru A-4)

* Enter the above (IAH) Basic Services Total Cost to the Year One Rates Proposal Price Sheet Total Summary on price line I-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR ONE – (IAH) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (IAH) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	1,650	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	800	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	1,600	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	300	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	450	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE

SOLICITATION NO.: S33-T23961

B. ESTIMATED (IAH) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 700,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (IAH) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST *(add A & B)* * \$ _____

* Enter The Above Estimated (IAH) Other Work/Services Annual Cost To The— Year One Rates - Proposal Price Sheet Total Summary On Price Line II-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR ONE – (HOU) BASIC SERVICES

		<u>Cost per Month</u>	(x)	<u>Cost per Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3 & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(HOU) BASIC SERVICES TOTAL ITEMS (A-1 Thru A-4)			* \$ _____

* Enter the above (HOU) Basic Services Total Cost to the Year One Rate - Proposal Price Sheet Total Summary on price line I-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR ONE – (HOU) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. **Estimated (HOU) Other Work/ Services Labor** (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	500	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	130	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	120	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	100	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	40	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (HOU) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 100,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (HOU) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (HOU) Other Work/Services Annual Cost To The Year One Rates - Proposal Price Sheet Total Summary On Price Line II-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR ONE – (EFD) BASIC SERVICES

		<u>Cost per Month</u>	(x)	<u>Cost per Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(EFD) BASIC SERVICES TOTAL ITEMS (A-1 Thru A-4)			* \$ _____

* Enter the above (EFD) Basic Services Total Cost to the Year One Rates - Proposal Price Sheet Total Summary on price line I-c.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR ONE – (EFD) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (EFD) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	310	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	30	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	140	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	20	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	60	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	5	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (EFD) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 40,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (EFD) OTHER WORK/SERVICES ANNUAL COST (add A & B) * \$ _____

*** Enter The Above Estimated (EFD) Other Work/Services Annual Cost To Year One Rates - Proposal Price Sheet Total Summary On Price Line II-c.**

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR TWO – (IAH) BASIC SERVICES

		<u>Cost per</u>	(x)	<u>Cost per</u>
		<u>Month</u>		<u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____

(IAH) BASIC SERVICES TOTAL ITEMS
(A-1 Thru A-4)

* \$ _____

* Enter the above (IAH) Basic Services Total Cost to Year Two Rates - Proposal Price Sheet Total Summary on price line I-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR TWO – (IAH) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (IAH) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	1,650	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	800	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	1,600	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	300	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	450	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE

SOLICITATION NO.: S33-T23961

B. ESTIMATED (IAH) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 700,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (IAH) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (IAH) Other Work/Services Annual Cost To Year Two Rates - Proposal Price Sheet Total Summary On Price Line II-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR TWO – (HOU) BASIC SERVICES

		<u>Cost per Month</u>	(x)	<u>Cost per Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3 & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(HOU) BASIC SERVICES TOTAL ITEMS (A-1 Thru A-4)			* \$ _____

* Enter the above (HOU) Basic Services Total Cost to Year Two Rates - Proposal Price Sheet Total Summary on price line I-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR TWO – (HOU) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. **Estimated (HOU) Other Work/ Services Labor** (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	500	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	130	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	120	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	100	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	40	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (HOU) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
MATERIALS	\$ 100,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)			\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (HOU) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (HOU) Other Work/Services Annual Cost To Year Two Rates – Proposal Price Sheet Total Summary On Price Line II-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR TWO – (EFD) BASIC SERVICES

		<u>Cost per Month</u>	(x)	<u>Cost per Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(EFD) BASIC SERVICES TOTAL ITEMS <i>(A-1 Thru A-4)</i>			* \$ _____

*** Enter the above (EFD) Basic Services Total Cost to– Year Two Rates - Proposal Price Sheet Total Summary on price line I-c.**

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR TWO – (EFD) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (EFD) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	310	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	30	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	140	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	20	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	60	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	5	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE

SOLICITATION NO.: S33-T23961

B. ESTIMATED (EFD) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 40,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (EFD) OTHER WORK/SERVICES ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (EFD) Other Work/Services Annual Cost To Year Two Rates - Proposal Price Sheet Total Summary On Price Line II-c.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR THREE – (IAH) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____

(IAH) BASIC SERVICES TOTAL ITEMS
(A-1 Thru A-4)

* \$ _____

* Enter the above (IAH) Basic Services Total Cost to Year Three Rates - Proposal Price Sheet Total Summary -on price line I-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR THREE – (IAH) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (IAH) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	1,650	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	800	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	1,600	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	300	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	450	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (IAH) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 700,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (IAH) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST *(add A & B)* * \$ _____

* Enter The Above Estimated (IAH) Other Work/Services Annual Cost To The Year Three Rates - Proposal Price Sheet Total Summary On Price Line II-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

I. YEAR THREE – (HOU) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3 & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(HOU) BASIC SERVICES TOTAL ITEMS <i>(A-1 Thru A-4)</i>			* \$ _____

* Enter the above (HOU) Basic Services Total Cost to Year Three Rates - Proposal Price Sheet Total Summary on price line I-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR THREE – (HOU) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. **Estimated (HOU) Other Work/ Services Labor** (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	500	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	130	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	120	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	100	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	40	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (HOU) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
MATERIALS	\$ 100,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)			\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (HOU) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (HOU) Other Work/Services Annual Cost To Year Three Rates - Proposal Price Sheet Total Summary On Price Line II-B.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

I. YEAR THREE – (EFD) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(EFD) BASIC SERVICES TOTAL ITEMS <i>(A-1 Thru A-4)</i>			* \$ _____

* Enter the above (EFD) Basic Services Total Cost to Year Three Rates - Proposal Price Sheet Total Summary on price line I-c.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR THREE – (EFD) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (EFD) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	310	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	30	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	140	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	20	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	60	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	5	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (EFD) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 40,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (EFD) OTHER WORK/SERVICES ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (EFD) Other Work/Services Annual Cost To Year Three Rates - Proposal Price Sheet Total Summary On Price Line II-c.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR FOUR (OPTION YEAR ONE) – (IAH) BASIC SERVICES

		<u>Cost per Month</u>	(x)	<u>Cost per Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____

(IAH) BASIC SERVICES TOTAL ITEMS
(A-1 Thru A-4)

* \$ _____

* Enter the above (IAH) Basic Services Total Cost to Year Four (Option Year One) Rates - Proposal Price Sheet Total Summary on price line I-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR FOUR (OPTION YEAR ONE) – (IAH) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (IAH) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	1,650	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	800	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	1,600	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	300	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	450	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (IAH) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 700,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (IAH) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (IAH) Other Work/Services Annual Cost To Year Four (Option Year One) Rates - Proposal Price Sheet Total Summary On Price Line II-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

II. YEAR FOUR (OPTION YEAR ONE) – (HOU) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3 & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(HOU) BASIC SERVICES TOTAL ITEMS (A-1 Thru A-4)			* \$ _____

* Enter the above (HOU) Basic Services Total Cost to Year Four (Option Year One) Rates - Proposal Price Sheet Total Summary on price line I-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR FOUR (OPTION YEAR ONE) – (HOU) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. **Estimated (HOU) Other Work/ Services Labor** (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	500	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	130	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	120	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	100	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	40	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (HOU) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
MATERIALS	\$ 100,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)			\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (HOU) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (HOU) Other Work/Services Annual Cost To Year Four (Option Year One) Rates - Proposal Price Sheet Total Summary On Price Line II-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR FOUR (OPTION YEAR ONE) – (EFD) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test, etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(EFD) BASIC SERVICES TOTAL ITEMS <i>(A-1 Thru A-4)</i>			* \$ _____

* Enter the above (EFD) Basic Services Total Cost to Year Four (Option Year One) Rates - Proposal Price Sheet Total Summary on price line I-c.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR FOUR (OPTION YEAR ONE) – (EFD) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (EFD) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	310	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	30	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	140	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	20	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	60	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	5	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (EFD) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 40,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (EFD) OTHER WORK/SERVICES ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (EFD) Other Work/Services Annual Cost To Year Four (Option Year One) Rates - Proposal Price Sheet Total Summary On Price Line II-c.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

YEAR FIVE (OPTION YEAR TWO) – (IAH) BASIC SERVICES

		<u>Cost per Month</u>	(x)	<u>Cost per Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____

(IAH) BASIC SERVICES TOTAL ITEMS
(A-1 Thru A-4)

* \$ _____

* Enter the above (IAH) Basic Services Total Cost to Year Five (Option Year Two) Rates - Proposal Price Sheet Total Summary on price line I-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR FIVE (OPTION YEAR TWO) – (IAH) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (IAH) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	1,650	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	800	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	1,600	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	300	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	450	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

B. ESTIMATED (IAH) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 700,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (IAH) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (IAH) Other Work/Services Annual Cost To Year Five (Option Year Two) Rates - Proposal Price Sheet Total Summary On Price Line II-a.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE
SOLICITATION NO.: S33-T23961

III. YEAR FIVE (OPTION YEAR TWO) – (HOU) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3 & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test. etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
(HOU) BASIC SERVICES TOTAL ITEMS (A-1 Thru A-4)				* \$ _____

* Enter the above (HOU) Basic Services Total Cost to Year Five (Option Year Two) Rates – Proposal Price Sheet Total Summary on price line I-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR FIVE (OPTION YEAR TWO) – (HOU) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. **Estimated (HOU) Other Work/ Services Labor** (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	500	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	130	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	200	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	120	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	100	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	40	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE

SOLICITATION NO.: S33-T23961

B. ESTIMATED (HOU) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 100,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (HOU) OTHER WORK/SERVICES LABOR & MATERIAL ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (HOU) Other Work/Services Annual Cost To Year Five (Option Year Two) Rates – Proposal Price Sheet Total Summary On Price Line II-b.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

III. YEAR FIVE (OPTION YEAR TWO) – (EFD) BASIC SERVICES

		<u>Cost per</u> <u>Month</u>	(x)	<u>Cost per</u> <u>Year</u>
A-1	HVAC SYSTEMS Operation and Maintenance. (Includes all Basic Services specified in the Proposal with the exception of the following individually priced Basic Services items, A-2, A-3, & A-4)	\$ _____	(12)	\$ _____
A-2	Operation and Maintenance of Direct Digital Control Systems.	\$ _____	(12)	\$ _____
A-3	Water Treatment & Corrosion Testing (Operate, Maintain, Chemicals, Treat, Test, etc)	\$ _____	(12)	\$ _____
A-4	Maintenance Management System (MMS) (Provide, Install, Code, Integration, etc.)	\$ _____	(12)	\$ _____
	(EFD) BASIC SERVICES TOTAL ITEMS <i>(A-1 Thru A-4)</i>			* \$ _____

* Enter the above (EFD) Basic Services Total Cost to Year Five (Option Year Two) Rates - Proposal Price Sheet Total Summary on price line I-c.

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE SOLICITATION NO.: S33-T23961

II. YEAR FIVE (OPTION YEAR TWO) – (EFD) OTHER WORK/SERVICES

Other Work/Services may be required for the HVAC SYSTEMS to meet desired conditions and/or repairs not covered in the Basic Services of the Proposal. Any estimated quantities, labor hours, and remedial maintenance and supplies expenditures listed below are estimated amounts for Other Work/Services for each year of the Proposal. Consequently, the actual dollar amount for Other Work/Services may be higher or lower than the estimates, and the Contractor shall only be paid for actual work performed, subject to City direction and approval. **If Other Work/Services are performed by the on-site crew in conjunction with their regular duties, Contractor shall not receive additional compensation for their labor.**

A. Estimated (EFD) Other Work/ Services Labor (Quantities are estimated for budget purposes only)

No.	Description	Est. Annual Labor Hours	X	Cost per Hour/Unit	=	Annual Cost
1.	<u>HVAC MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	310	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	30	X	\$ _____/hr.	=	\$ _____
2.	<u>DDC MAINTENANCE TECHNICIAN</u>					
	a. Normal Work Hours	140	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	20	X	\$ _____/hr.	=	\$ _____
3.	<u>DX MAINTENANCE MECHANIC</u>					
	a. Normal Work Hours	60	X	\$ _____/hr.	=	\$ _____
	b. After Normal Work Hours	5	X	\$ _____/hr.	=	\$ _____
Total Estimated Other Work / Services Labor Annual Costs						\$ _____
<i>(add items 1 - 3)</i>						

EXHIBIT III – SAMPLE PRICE SHEET / FEE SCHEDULE

SOLICITATION NO.: S33-T23961

B. ESTIMATED (EFD) OTHER WORK/SERVICES SUBCONTRACTS / MATERIALS / SUPPLIES
 (Quantities are estimated for budget purposes only)

PRICES SHALL BE BASED ON THE CONTRACTOR'S ACTUAL COST PLUS THE FOLLOWING MARK-UP PERCENTAGES:

	ITEM	ESTIMATED ANNUAL COST	CONTRACTOR PERCENT MARK-UP (Maximum of 15%)	TOTAL ANNUAL ESTIMATED COST
	MATERIALS	\$ 40,000	_____ %	\$ _____
TOTAL ESTIMATED OTHER WORK/SERVICES (SUBCONTRACTS / MATERIALS / SUPPLIES) ANNUAL COSTS (item B total)				\$ _____

Contractor must fill in the above maximum percent mark-up (not to exceed 15%) and complete Total Annual Estimated Cost.

TOTAL ESTIMATED (EFD) OTHER WORK/SERVICES ANNUAL COST (add A & B) * \$ _____

* Enter The Above Estimated (EFD) Other Work/Services Annual Cost To Year Five (Option Year Two) Rates - Proposal Price Sheet Total Summary On Price Line II-c.

**EXHIBIT IV – INSURANCE REQUIREMENTS AND SAMPLE
INSURANCE CERTIFICATE
SOLICITATION NO.: S33-T23961**

To comply with the Terms & Conditions for insurance in a City of Houston Service Contract, the Contractor's Insurance Certificate must be prepared as follows and shall meet the requirements set forth in this Solicitation:

- A. The City of Houston must be listed as an **additional insured** on the face of the Certificate, except those for Worker's Compensation and Employer's Liability.
- B. Each Policy must contain an endorsement to the effect that **the issuer waives any claim or right in the nature of subrogation** to recover against the City, its officers, agents or employees.
- C. The City of Houston must be included in the Insurer's Notification Requirement, which may be accomplished in one of the following ways:
 - 1. By the Contractor's Insurance Agent revising the standard cancellation clause to read substantially as follows (all handwritten strike-outs, additions, and changes to the original text, must all be initialed by the Insurance Agent authorized to make such changes):

=====C A N C E L L A T I O N=====

J. D.

NON-RENEWED

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION

J. D.

DATE THEREOF, THE ISSUING COMPANY WILL ~~ENDEAVOR TO MAIL~~ 30 DAYS WRITTEN NOTICE OF SUCH CHANGE TO THE CERTIFICATE HOLDER NAMED (TO THE LEFT), ~~BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND~~

J. D.

~~UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.~~

=====

AUTHORIZED REPRESENTATIVE OF INSURER John Doe

=====

- O R -

- 2. By Attaching Endorsements in the form attached.
- D. Contractor shall require all subcontractors to carry insurance naming the City as an additional insured and meeting the all of the above requirements except as to amount. The amount shall be commensurate with the amount of the subcontract, but not in no case shall it be less than \$500,000 per occurrence.

Revised - 03/09/95

**EXHIBIT IV – INSURANCE REQUIREMENTS AND SAMPLE
INSURANCE CERTIFICATE
SOLICITATION NO.: S33-T23961**

CERTIFICATE OF INSURANCE EXPLANATIONS

1. Certificate must not be more than 90 days old.
2. Name and Address of Producer writing coverage.
3. Name of each insurance company providing coverage (as listed in Best's Key Rating Guide or on company's Certificate of Authority on file with Texas Department of Insurance). Each company must have (1) a Certificate of Authority to transact insurance business in Texas or (2) be an eligible non-admitted insurer in the State of Texas and have a Best's rating of B+ or better and a Best's financial size category of class VI or better according to the most current edition Best's Key Rating Guide.
4. Name and address of Insured (as shown on policy)
5. Letter in the column must reference the insurer of the policy being described
6. Must be a policy number; no binders will be accepted
7. Date policy became effective
8. Expiration date must be at least **30** days from date of delivery of certificate
9. Name and file number of project
10. Name of project manager
11. Signature or facsimile signature of authorized representative of Producer (blue ink preferred)
12. All required endorsements must accompany the certificate

EXHIBIT IV – SAMPLE INSURANCE CERTIFICATE FOR CONTRACT AWARD (\$50K OR MORE) SOLICITATION NO.: S33-T23961

ACORD. CERTIFICATE OF INSURANCE Issue Date (MM/DD/YY)

PRODUCER

ISSUERS OF POLICIES. THE ISSUER SHALL HAVE A RATING OF AT LEAST B + AND FINANCIAL SIZE OF CLASS VI OR BETTER ACCORDING TO THE CURRENT YEAR'S BEST RATING.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

SAMPLE FORM

COMPANIES AFFORDING COVERAGE

- COMPANY A
- COMPANY B
- COMPANY C
- COMPANY D
- COMPANY E

COVERAGE'S

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR.	TYPE OF INSURANCE	POLICY NUMBER	EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION (MM/DD/YY)	POLICY LIMITS
A.	General Liability <input checked="" type="checkbox"/> Commercial General Liability Claims Made <input checked="" type="checkbox"/> Occur. Owners & Contractors Prot.			General Aggregate Products-Comp/Op Agg. Personal & Adv. Injury Each Occurrence Fire Damage (Any one fire) Med. Expense (Any one person)	\$1,000,000 \$1,000,000 \$1,000,000 \$ 500,000 \$ 50,000 \$ 5,000
A.	Automobile Liability <input checked="" type="checkbox"/> Any Auto <input checked="" type="checkbox"/> All Owned Autos <input type="checkbox"/> Scheduled Autos <input type="checkbox"/> Hired Autos <input type="checkbox"/> Non-Owned Autos Garage Liability		Auto Liability Insurance for autos furnished or used in the course of performance of this Contract. Including Owned, Non-owned, and Hired Auto coverage. (Any Auto coverage may be substituted for Owned, Non-owned and Hired Auto Coverage.) If no autos are owned by Contractor, coverage may be limited to Non-owned and Hired Autos. If Owned Auto coverage cannot be purchased by Contractor, Scheduled Auto coverage may be substituted for Owned Auto coverage. EACH AUTO USED IN PERFORMANCE OF THIS CONTRACT SHALL BE COVERED IN THE LIMITS SPECIFIED.	Combined Single Limit Bodily Injury (Per person) Bodily Injury (Per Accident) Property Damage	\$1,000,000 \$ \$ \$
	Excess Liability			Each Occurrence Aggregate	\$ \$
	Worker's Compensation and Employee Liability	Statutory Limits	<input checked="" type="checkbox"/>	Statutory Limits Each Accident Disease - Policy Limit Disease - Each Employee	\$ 100,000 \$ 100,000 \$ 100,000
	Other				

DESCRIPTION OF OPERATION/LOCATIONS/VEHICLES/SPECIAL ITEMS

City of Houston is named as additional insured on Auto and General Liability policies, and Waiver of Subrogation on Auto, General Liability, and Worker's Compensation.
For (Project Name)

CERTIFICATE HOLDER

SHALL BE MODIFIED AS FOLLOWS: **CANCELLATION**
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED NON-RENEWED BEFORE THE EXPIRATION DATE THERE OF, THE ISSUING COMPANY WILL MAIL THIRTY (30) DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. CITY OF HOUSTON / FINANCE AND ADMINISTRATION

DEPARTMENT – STRATEGIC PURCHASING DIVISION

P.O. BOX 1562
HOUSTON, TEXAS 77251

AUTHORIZED REPRESENTATIVE

EXHIBIT V – FAIR CAMPAIGN ORDINANCE
SOLICITATION NO.: S33-T23961

The City of Houston Fair Campaign Ordinance makes it unlawful for a Contractor to offer any contribution to a candidate for City elective office (including elected officers and officers-elect). All respondents to this invitation to bid must comply with Houston Code of Ordinances Chapter 18 as amended relating to the contribution and solicitation of funds for election campaigns. Provisions of this ordinance are provided in part in the paragraphs that follow. Complete copies may be obtained from the office of the City Secretary.

Candidates for city office may neither solicit nor receive contributions except during a period commencing 270 calendar days prior to an election date for which a person is a candidate for such office and ending 90 calendar days after the election date, including run-off elections if such candidate is on the ballot.

Further, it shall be unlawful either for any person who submits a Bid or Proposal to contribute or offer any contribution to a candidate or for any candidate to solicit or accept any contribution from such person for a period commencing at the time of posting of the City Council Meeting Agenda including an item for the award of the Contract and ending upon the 30th day after the award of the Contract by City Council.

For the purposes of this Ordinance, a **Contract** is defined as each Contract having a value in excess of \$30,000 that is let by the City for professional services, personal services, or other goods or services of any other nature whether the Contract is awarded on a negotiated basis, request for Proposal basis, competitive Proposal basis or formal sealed competitive Bids. The term **Contractor** includes proprietors of proprietorships, partners having an equity interest of 10% or more of partnerships, (including limited liability partnerships and companies), all officers and Director and/or designees of corporations (including limited liability corporations), and all holders of 10% or more of the outstanding shares of corporations.

A STATEMENT DISCLOSING THE NAMES AND BUSINESS ADDRESSES EACH OF THOSE PERSONS WILL BE REQUIRED TO BE SUBMITTED WITH EACH BID OR PROPOSAL FOR A CITY CONTRACT. Completion of the attached form entitled "**Contractor Submission List**" will satisfy this requirement. Failure to provide this information may be just cause for rejection of your Bid or Proposal.

**EXHIBIT V – FORM “A”: FAIR CAMPAIGN
SOLICITATION NO.: S33-T23961**

List all officers of the corporation (if none state none”):

Name _____
Officer Address _____

Name _____
Officer Address _____

Name _____
Officer Address _____

List all individuals owning 10% or more of outstanding shares of stock of the corporation (if none state “none”):

Name _____
Address _____

Name _____
Address _____

Name _____
Address _____

I certify that I am duly authorized to submit this list on behalf of the firm, that I am associated with the firm in the capacity noted below and that I have personal knowledge of the accuracy of the information provided herein.

Preparer

Printed Name

Title

Note: This list constitutes a **government record** as defined by § 37.01 of the Texas Penal Code.

8/23/01

**EXHIBIT VI: CONTRACTOR OWNERSHIP
DISCLOSURE ORDINANCE
SOLICITATION NO.: S33-T23961**

City Council requires knowledge of the identities of the owners of entities seeking to Contract with the City in order to review their indebtedness to the City prior to entering Contracts. Therefore, all respondents to this Invitation to Bid must comply with Houston Code of Ordinances Chapter 15, as amended (Sections 15-122 through 15-126) relating to the disclosure of owners of entities bidding on, proposing for or receiving City contracts. Provisions of this ordinance are provided in part in the paragraphs that follow. Complete copies may be obtained from the office of the City Secretary.

Contracting entity means a sole proprietorship, corporation, non-profit corporation, partnership, joint venture, limited liability company, or other entity that seeks to enter into a contract requiring approval by the Council but excluding governmental entities.

A contracting entity must submit at the time of its Bid or Proposal, an affidavit listing the full names and the business and residence addresses of all persons owning five percent or more of a contracting entity or, where a contracting entity is a non-profit corporation, the full names and the business and residence addresses of all officers of the non-profit corporation.

Completion of the "**Affidavit of Ownership or Control**," included herein, and submitted with the Official Bid or Proposal Form will satisfy this requirement. Failure to provide this information may be just cause for rejection of your Bid or Proposal.

EXHIBIT VI: AFFIDAVIT OF OWNERSHIP OR CONTROL
SOLICITATION NO.: S33-T23961

ORIG. DEPT.: _____

FILE/I.D. NO.: _____

INSTRUCTION: ENTITIES USING AN ASSUMED NAME SHOULD DISCLOSE SUCH FACT TO AVOID REJECTION OF THE AFFIDAVIT. THE FOLLOWING FORMAT IS RECOMMENDED: CORPORATE/LEGAL NAME DBA ASSUMED NAME.

STATE OF _____

§
§
§

AFFIDAVIT OF OWNERSHIP OR CONTROL

COUNTY OF _____

BEFORE ME, the undersigned authority, on this day personally appeared _____ [FULL NAME] (hereafter "Affiant"),
_____ [STATE TITLE/CAPACITY WITH CONTRACTING ENTITY] of _____
[CONTRACTING ENTITY'S CORPORATE/LEGAL NAME] ("Contracting Entity"), who being by me duly sworn on oath stated as follows:

1. Affiant is authorized to give this affidavit and has personal knowledge of the facts and matters herein stated.
2. Contracting Entity seeks to do business with the City in connection with _____
[DESCRIBE PROJECT OR MATTER] which is expected to be in an amount that exceeds \$50,000.
3. The following information is submitted in connection with the proposal, submission or bid of Contracting Entity in connection with the above described project or matter.
4. Contracting Entity is organized as a business entity as noted below (check box as applicable).

FOR PROFIT ENTITY:

- SOLE PROPRIETORSHIP
- CORPORATION
- PARTNERSHIP
- LIMITED PARTNERSHIP
- JOINT VENTURE
- LIMITED LIABILITY COMPANY
- OTHER (Specify type in space below)

NON-PROFIT ENTITY:

- NON-PROFIT CORPORATION
- UNINCORPORATED ASSOCIATION

EXHIBIT VI: AFFIDAVIT OF OWNERSHIP OR CONTROL
SOLICITATION NO.: S33-T23961

5. The information shown below is true and correct for the Contracting Entity and all owners of 5% or more of the Contracting Entity and, where the Contracting Entity is a non-profit entity, the required information has been shown for each officer, *i.e.*, president, vice-president, secretary, treasurer, etc. **[NOTE: IN ALL CASES, USE FULL NAMES, LOCAL BUSINESS AND RESIDENCE ADDRESSES AND TELEPHONE NUMBERS. DO NOT USE POST OFFICE BOXES FOR ANY ADDRESS. INCLUSION OF E-MAIL ADDRESSES IS OPTIONAL, BUT RECOMMENDED. ATTACH ADDITIONAL SHEETS AS NEEDED.]**

Contracting Entity

Name: _____

Business Address **[No./STREET]** _____

[CITY/STATE/ZIP CODE] _____

Telephone Number (_____) _____

Email Address **[OPTIONAL]** _____

Residence Address **[No./STREET]** _____

[CITY/STATE/ZIP CODE] _____

Telephone Number (_____) _____

Email Address **[OPTIONAL]** _____

5% Owner(s) or More (IF NONE, STATE "NONE.")

Name: _____

Business Address **[No./STREET]** _____

[CITY/STATE/ZIP CODE] _____

Telephone Number (_____) _____

Email Address **[OPTIONAL]** _____

Residence Address **[No./STREET]** _____

[CITY/STATE/ZIP CODE] _____

Telephone Number (_____) _____

EXHIBIT VI: AFFIDAVIT OF OWNERSHIP OR CONTROL
SOLICITATION NO.: S33-T23961

Email Address *[OPTIONAL]* _____

6. Optional Information

Contracting Entity and/or _____ *[NAME OF OWNER OR NON-PROFIT OFFICER]* is actively protesting, challenging or appealing the accuracy and/or amount of taxes levied against _____ *[CONTRACTING ENTITY, OWNER OR NON-PROFIT OFFICER]* as follows:

Name of Debtor: _____
Tax Account Nos. _____
Case or File Nos. _____
Attorney/Agent Name _____
Attorney/Agent Phone No. (_____) _____
Tax Years _____

Status of Appeal *[DESCRIBE]* _____

Affiant certifies that he or she is duly authorized to submit the above information on behalf of the Contracting Entity, that Affiant is associated with the Contracting Entity in the capacity noted above and has personal knowledge of the accuracy of the information provided herein, and that the information provided herein is true and correct to the best of Affiant's knowledge and belief.

Affiant

SWORN TO AND SUBSCRIBED before me this _____ day of _____, 20_____.

(Seal)

Notary Public

NOTE:

This affidavit constitutes a **government record** as defined by Section 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in Section 37.10 of the Texas Penal Code. Attach additional pages if needed to supply the required names and addresses.

**EXHIBIT VII: DRUG DETECTION AND DETERRENCE
PROCEDURES FOR CONTRACTORS
SOLICITATION NO.: S33-T23961**

- (a) It is the policy of the City to achieve a drug-free workforce and to provide a workplace that is free from the use of illegal drugs and alcohol. It is also the policy of the City that the manufacture, distribution, dispensation, possession, sale or use of illegal drugs or alcohol by Contractors while on City premises is prohibited. By executing this Contract, Contractor represents and certifies that it meets and shall comply with all the requirements and procedures set forth in the Mayor's Policy on Drug Detection and Deterrence, City Council Motion No. 92-1971 ("Mayor's Policy") and the Mayor's Drug Detection and Deterrence Procedures for Contractors, Executive Order No. 1-31 ("Executive Order"), both of which are on file in the Office of the City Secretary.
- (b) Confirming its compliance with the Mayor's Policy and Executive Order, Contractor, as a condition precedent to City's obligations under this Contract, will have filed with the Contract Compliance Officer for Drug Testing ("CCODT"), prior to execution of this Contract by the City, (i) a copy of its drug-free workplace policy, (ii) the Drug Policy Compliance Agreement substantially in the format set forth in Attachment "A" to the Executive Order, together with a written designation of all safety impact positions, and (iii) if applicable (e.g. no safety impact positions), the Certification of No Safety Impact Positions, substantially in the format set forth in Attachment "C" to the Executive Order. If Contractor files written designation of safety impact positions with its Drug Policy Compliance Agreement, it also shall file every six (6) months during the performance of this Contract or upon the completion of this Contract if performance is less than six (6) months, a Drug Policy Compliance Declaration in a form substantially similar to Attachment "B" to the Executive Order. The Drug Policy Compliance Declaration shall be submitted to the CCODT within thirty days of completion of this Contract. The first six (6) month period shall begin to run on the date the City issues its notice to proceed hereunder or if no notice to proceed is issued on the first day Contractor begins work under this Contract.
- (c) Contractor shall have the continuing obligation to file with the CCODT written designations of safety impact positions and Drug Policy Compliance Declarations at anytime during the performance of this Contract that safety impact positions are added if initially no safety impact positions were designated. Contractor also shall have the continuing obligation to file updated designations of safety impact positions with the CCODT when additional safety impact positions are added to Contractor's employee work force.
- (d) The failure of Contractor to comply with the above Sections shall be a breach of this Contract entitling City to terminate in accordance with Article IV.

EXHIBIT VII – ATTACHMENT “A”
DRUG POLICY COMPLIANCE AGREEMENT
SOLICITATION NO.: S33-T23961

I, _____ as an owner or officer of
(Name) (Print/Type) (Title)

(Name of Company) (Contractor)

have authority to bind Contractor with respect to its bid, offer or performance of any and all contracts it may enter into with the City of Houston; and that by making this Agreement, I affirm that the Contractor is aware of and by the time the Contract is awarded will be bound by and agree to designate appropriate safety impact positions for company employee positions, and to comply with the following requirements before the City issues a notice to proceed.

1. Develop and implement a written Drug Free Workplace Policy and related drug testing procedures for the Contractor that meet the criteria and requirements established by the Mayor's Amended Policy on Drug Detection and Deterrence (Mayor's Drug Policy) and the Mayor's Drug Detection and Deterrence Procedures for Contractors (Executive Order No. 1-31).
2. Obtain a facility to collect urine samples consistent with Health and Human Services (HHS) guidelines and a HHS certified drug testing laboratory to perform the drug tests.
3. Monitor and keep records of drug tests given and the results; and upon request from the City of Houston, provide confirmation of such testing and results.
4. Submit semi-annual Drug Policy Compliance Declarations.

I affirm on behalf of the Contractor that full compliance with the Mayor's Drug Policy and Executive Order No. 1-31 is a material condition of the contract with the City of Houston.

I further acknowledge that falsification, failure to comply with or failure to timely submit declarations and/or documentation in compliance with the Mayor's Drug Policy and/or Executive Order No. 1-31 will be considered a breach of the contract with the City and may result in non-award or termination of the Contract by the City of Houston.

Date

Contractor Name

Signature

Title

**EXHIBIT VII – ATTACHMENT “B”
 DRUG POLICY COMPLIANCE DECLARATION
 SOLICITATION NO.: S33-T23961**

I, _____ as an owner or officer of
 (Name) (Print/Type) (Title)

_____ (Contractor)
 (Name of Company)

have personal knowledge and full authority to make the following declarations:

This reporting period covers the preceding six months from _____ to _____, 19_____.

_____ A written Drug Free Workplace Policy has been implemented and employees notified. The policy **Initials** meets the criteria established by the Mayor's Amended Policy on Drug Detection and Deterrence (Mayor's Policy).

_____ Written drug testing procedures have been implemented in conformity with the Mayor's Drug **Initials** Detection and Deterrence Procedures for Contractors, Executive Order 1-31. Employees have been notified of such procedures.

_____ Collection/testing has been conducted in compliance with federal Health and Human Services **Initials** (HHS) guidelines.

_____ Appropriate safety impact positions have been designated for employee positions performing on **Initials** the City of Houston contract. The number of employees on safety impact positions during this reporting period is _____.

From _____ to _____ the following testing has occurred.
Initials (start date) (end date)

	<u>Random</u>	<u>Reasonable Suspicion</u>	<u>Post Accident</u>	<u>Total</u>
Number of Employees Tested	_____	_____	_____	_____
Number of Employees Positive	_____	_____	_____	_____
Percent Employees Positive	_____	_____	_____	_____

_____ Any employee who tested positive was immediately removed from the City worksite consistent with the **(Initials)** Mayor's Policy and Executive Order No. 1-31.

_____ I affirm that falsification or failure to submit this declaration timely in accordance with established guidelines **(Initials)** will be considered a breach of Contract.

I declare under penalty of perjury that the affirmations made herein and all information contained in this declaration are within my personal knowledge and are true and correct.

Date

Contractor Name

Signature

Title

EXHIBIT VIII – ANTI-COLLUSION STATEMENT
SOLICITATION NO.: S33-T23961

Anti-Collusion Statement

The undersigned, as Proposer, certifies that the only person or parties interested in this Proposal as principals are those named herein; that the Proposer has not, either directly or indirectly entered into any Agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the award of this Contract.

Date

Proposer Signature

EXHIBIT IX – CONFLICT OF INTEREST QUESTIONNAIRE
SOLICITATION NO.: S33-T23961

Chapter 176 of the Local Government Code requires every Vendor or Contractor with the City of Houston (“City”) to file a Conflict of Interest Questionnaire with the City Secretary of the City of Houston by the **seventh** business day after:

- (1) any contract discussions or negotiations begin, or
- (2) submitting an application, responses to requests for proposals, bids, correspondence, or any writing related to a potential Agreement with the City.

The Conflict of Interest Questionnaire is available for downloading from the Texas Ethics Commission’s website at <http://www.ethics.state.tx.us/forms/CIQ.pdf>. The completed Conflict of Interest Questionnaires will be posted on the City Secretary’s website. There will also be a list of the City’s Local Government Officers on the City of Houston’s website.

Additionally, each Vendor or Contractor must file updated questionnaires no later than **September 1st** of each year that the Vendor or Contractor seeks to contract with the City, or the **seventh** business day after the date of an event that would render the questionnaire incomplete or inaccurate.

However, a Vendor or Contractor is not required to file a new questionnaire in any year if the vendor has completed a questionnaire between June 1st and September 1st of that year, unless the previous questionnaire is incomplete or inaccurate.

Original Conflict of Interest Questionnaire shall be filed with Houston’s Records Administrator (Ms. Anna Russell, City Secretary, 900 Bagby, First Floor, Houston, Texas 77002). Vendors and Contractors shall include a copy of the form that was submitted to the City Secretary as part of the Bid Package. Any questions about filling out this form should be directed to your attorney

Failure of any Vendor or Contractor to comply with this law is a Class-C misdemeanor.

EXHIBIT IX – CONFLICT OF INTEREST QUESTIONNAIRE

SOLICITATION NO.: S33-T23961

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor or other person doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 1491, 80th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of person who has a business relationship with local governmental entity.

2 Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 Name of local government officer with whom filer has employment or business relationship.

Name of Officer

This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?

Yes No

B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

Yes No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

Yes No

D. Describe each employment or business relationship with the local government officer named in this section.

4

Signature of person doing business with the governmental entity

Date

EXHIBIT X – PAY OR PLAY PROGRAM REQUIREMENTS

SOLICITATION NO.: S33-T23961

I. Pay or Play Program Elements

A. Purpose

Authorized by Ordinance 2007-534 and Executive Order 1-7, the purpose of the Pay or Play Program is (1) to create a more level playing field among competing contractors so that those who provide health benefits to their employees are not disadvantaged in the bidding process; and 2) to recognize and account for the fact that there are costs associated with the health care of the uninsured.

B. Program Elements

1. Covered Contracts: Contracts covered by the program are those that are advertised after July 1, 2007, which are valued at or above \$100,000 and are not primarily for the procurement of property, goods, supplies or equipment.
2. Covered employees: This program applies to employees of a covered Contractor or Subcontractor, including Contract labor, who are over age 18, work at least 30 hours per week and work any amount of time under a covered city Contract or Subcontract.
3. Compliance with the program means that the Contractor either:
 - “Pays” by contributing \$1.00 per covered employee per hour for work performed under the Contract with the City; or
 - “Plays” by offering health benefits to covered employees. Health benefits must meet or exceed the following standards:
 - The employer will contribute no less than \$150 per covered employee per month toward the total premium cost.
 - The employee contribution, if any amount, will be no greater than 50% of the total monthly premium cost.
4. Subcontracts: The Prime Contractor is responsible for compliance on behalf of covered employees, including Contract labor, of subcontractors with subcontracts valued at or greater than \$200,000, if the Subcontract is not primarily for the procurement of property, goods, supplies or equipment. Subcontractor compliance includes submission of applicable reports and/or payments to the Prime, as well as maintenance of records.
5. Exemptions/Waivers: The City of Houston will award a Contract to a Contractor that neither Pays nor Plays only if the Contractor has received an approved waiver.
6. Administration: Contractor performance in meeting Pay or Play program requirements will be managed by the contracting department. The Office of Affirmative Action and Contract Compliance will have administrative oversight of the program, including audit responsibilities. Questions about the program should be referred to the department POP Liaison or the Office of Affirmative Action and Contract Compliance.

EXHIBIT X – PAY OR PLAY PROGRAM REQUIREMENTS

SOLICITATION NO.: S33-T23961

II. Documentation and Reporting Requirements

A. Document that must be signed and returned to administering department with the Bid/Proposal.

1. Notice to Prospective City Contractors (Form POP-1A) acknowledges Bidder/Proposers' knowledge of the program and its requirements, and the intention to comply.

B. Documents that must be signed and returned to administering department within a period designated by the department's Contract Administrator, upon notification of low Bidder or successful Proposer status:

1. Certification of Contractor's Intent to Comply with Pay or Play Program (Form POP-2). Note Contractors that opt to "play" must provide proof of coverage, including documentation from insurance provider, and names of covered employees.
2. List of Participating Subcontractors (Form POP-3).

C. The Contractor will comply with the following reporting requirements:

1. Contractors that opt to Play
Provide periodic reports to the Contract administrator showing proof of coverage. Reporting schedule will be determined by administering department based on length of Contract. (Form POP-7.)
2. Contractors that opt to Pay
Provide monthly reports to administering department, detailing names of employees, hours worked, exemptions (if any) and amount owed. (Form POP-5.)

Contractors shall submit an initial report with the second invoice to the department. Payments based on monthly reports are due to the contracting department with submission of the following month's invoice. Payments may be made via wire transfer, provided that proof of transaction is submitted to administering department.

III. Compliance and Enforcement

The Affirmative Action and Contract Compliance Office will audit program compliance. Contractors willfully violating or misrepresenting POP program compliance will be subject to corrective and/or punitive action, including but not limited to the assessment of fines and penalties and/or debarment.

The Pay or Play Program Requirements Form (POP-1) and all other POP Forms are available for downloading from the City of Houston's Website at <http://www.houstontx.gov/aacc/popforms.html>

EXHIBIT X – FORM “1A”
PAY OR PLAY PROGRAM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: S33-T23961



What this form does. This form acknowledges your awareness of the Pay or Play program. Your signature affirms that you will comply with the requirements of the program if you are the successful Bidder/Proposer, and ensure the same on behalf of subcontracts subject to the Pay or Play Program.

If you cannot make this assurance now, do not return this form.

For more information, contact the Contract Administrator.

Routing. Return this form with your Bid or Proposal.

I declare under penalty of perjury under the laws of the State of Texas that if awarded a contract, I will comply with the requirements of the Pay or Play Program.

Signature

Date

Print Name

City Vendor ID

Company Name

Phone Number

E-Mail Address

Contractor Name: _____ \$ _____
 (Contractor/Subcontractor) (Amount of Contract)

Contractor Address: _____

Project No.: [GFS/CIP/AIP/File No.] _____

Project Name: [Legal Project Name] _____

In accordance with the City of Houston Pay or Play Program authorized by Ordinance 2007-534, Contractor agrees to abide by the terms of this Program. This certification is required of all Contractors for Contracts subject to the program. You must agree EITHER to PAY or to PLAY for each covered employee, including those of subcontractors subject to the program.

Yes No Contractor agrees to Pay \$1.00 per hour for work performed by covered employees, including covered subcontractors' employees, under the Contract with the City.

Yes No Contractor agrees to offer health benefits to each covered employee, including covered subcontractors' employees that meet or exceed the following criteria:
 (1) the employer will contribute no less than \$150 per employee per month toward the total premium cost; and
 (2) the employee contribution, if any amount, will be no greater than 50% of the total premium cost.

Yes No Contractor agrees to pay of behalf of some covered employees and play on behalf of other covered employees, in accordance with program requirements, including subcontractors' employees, if applicable.

Yes No If contract labor is utilized the Contractor agrees to report hours worked by the contract laborer and Pay \$1.00 per hour for work performed.

Yes No Contractor will comply with all provisions of the Pay or Play Program and will furnish all information and reports requested to determine compliance with program provisions.

Yes No For Prime Contractors Only: Contractor will file compliance reports with the City, which will include activity for subcontractors subject to the program, in the form and to the extent requested by the administering department or the Affirmative Action and Contract Compliance Office. Compliance reports shall contain information including, but not limited to, documentation showing employee health coverage and employee work records.

*Estimated Number of:	Prime Contractor	Sub-Contractor
Total Employees on City Job		
Covered Employees		
Non-Covered Employees		
Exempt Employees		

*Required

I hereby certify that the above information is true and correct.

 CONTRACTOR (Signature)

 DATE

 NAME AND TITLE (Print or Type)

EXHIBIT XI
HVAC EQUIPMENT LIST
SOLICITATION NO.: S33-T23961

SEE HVAC EQUIPMENT LIST DOCUMENT ON WEBSITE

EXHIBIT XII
CORROSION TEST REQUIREMENTS
SOLICITATION NO.: S33-T23961

1.0 **GENERAL**

Contractor shall prepare a formal "Annual Shutdown Report" and present it to the Director within 60 days before the scheduled shutdown date. This report must summarize preplanning, execution, and startup procedures.

The report must also include Contingency Planning for worst-case scenarios to minimize outage time due to equipment failures, manpower shortages, and unforeseen Airport operational requirements.

At the end of the first full year of the Agreement or within 120 days after Contractor's first annual shutdown, Contractor shall present to the Director for first review, a complete operation and maintenance shutdown procedures manual. This manual will serve as a road map for planning, systems shutdown, and direction in execution of work, time scheduling, startup, debriefing and preparation of "Annual Shutdown Reports." Based upon comments provided by HAS, Contractor shall revise the manual and submit a final "camera-ready" draft within 30 days from the date of written comments by the Director.

2.0 **ANNUAL MAINTENANCE SHUTDOWN PROCEDURES**

The annual shutdown must include, but is not limited to two primary areas: Electrical and Mechanical. Both are to be scheduled and executed at the same time in order to reduce the downtime of all major equipment.

The annual maintenance shutdown must be tentatively scheduled six months in advance, but not later than June 1st. To maintain Airport terminal temperatures that ensure passenger comfort with equipment out of service, the schedule date must be selected based on projected ambient conditions. In order to balance operating inconvenience with manpower availability, preferably the shutdown should be scheduled at the beginning of a weekend (i.e. from 10:00 a.m. Friday to 6:00 a.m. Saturday). In addition, if anything occurs that makes the scheduled date impractical, the shutdown must roll over to the same day of the following week, then the next, and the next.

A. Pre-Shutdown

1. 6 months
2. 3 months
3. 1 month
4. 1 week
5. 2 days

B. Shutdown Execution

C. Post Shutdown

3.0 **ELECTRICAL AND MECHANICAL MAINTENANCE SHUTDOWN REQUIREMENTS**

Contractor is responsible for providing at a minimum the following requirements for the electrical and mechanical maintenance shutdown. It is Contractor's responsibility to verify update and revise these procedures consistent with sound and proven industry standards. All changes must be submitted to the Director for review prior to any formal changes being made.

- 3.1 Electrical Shutdown Procedures - Contractor shall follow the guidelines specified below to ensure all shutdown requirements are scheduled and performed in a timely manner. In addition, Contractor shall follow the recommended Practice for Electrical Equipment Maintenance as stated in the NFPA 70-B code. Contractor will also follow the standard for Maintenance Testing Specification for Electrical Power Equipment systems as stated in the American and International Testing Association Standards (ANSI/NETA MTS 2007).

EXHIBIT XII
CORROSION TEST REQUIREMENTS
SOLICITATION NO.: S33-T23961

3.1.1 Pre-Shutdown

A. Six (6) months prior to shutdown, Contractor shall:

1. Make a selection of dates for work needed to be done prior to shutdown; select a date for the annual shutdown. Shutdown dates shall be between January 1 and March 1 of each year.
2. Make a visual inspection of all equipment to be serviced.
 - a) Make a list of any potential problems or difficulties.
 - b) Prepare an estimate of personnel required to perform tasks during the shutdown.

B. Three (3) months prior to shutdown, Contractor shall:

1. Review the dates selected for shutdown to ensure no problems or conflicts exist with the dates selected.
2. Make a visual inspection of all equipment to identify any new problems that may have surfaced.
3. Prepare a shutdown procedure report for HAS to include all schedules for the work to be performed.
4. Coordinate with the Central Plant operations Manager and Terminal Maintenance Manager to determine if specialized equipment will be needed for the shutdown.
5. Contact vendors for availability of rental equipment to be used.
6. Contact sub-Contractors involved in the shutdown; verify their involvement schedule.
7. Make an inventory of on-site replacement parts.
8. Prepare an emergency "call-out" list of electrical suppliers that could supply critical repair parts during the shutdown.

C. One (1) month prior to shutdown, Contractor shall:

1. Set up meeting with sub-Contractors and shutdown evaluation personnel.
2. Contact Reliant Energy HL&P to schedule shutdown date and time.
3. Collect all repair and service material needed for the shutdown.
4. Request and obtain electrical permits through the City of Houston.

D. One (1) week prior to shutdown, Contractor shall:

1. Contact Reliant Energy HL&P to confirm shutdown schedule.
2. Obtain re-connect permit from the City of Houston.
3. Contact outside Contractors to confirm the shutdown schedule.
4. Make confirmation calls on all rental equipment.
5. Install temporary lights where needed.
6. Acquire all parts and material needed for shutdown.

EXHIBIT XII
CORROSION TEST REQUIREMENTS
SOLICITATION NO.: S33-T23961

8. Make final visual inspection to identify potential problems that could need special attention, not previously identified.
9. Order lighting generator for plant

E. Two (2) days prior to shutdown, Contractor shall:

1. Verify all materials, parts, supplies, etc. required to support the shutdown are accounted for and are in the appropriate work sites.
2. Hold a final briefing with all personnel scheduled as part of the shutdown team to ensure assigned duties and responsibilities are clear.

3.1.2 Shutdown Execution

A. Safety Briefing

1. Schedule a meeting for all operators, mechanics, PMI's and electricians working on the shutdown to review all aspects of safety procedures that must include but are not limited to the following:
 - a) Electrical Tag-out and Lock-out procedures. Provide a clear delineation of responsibilities for personnel from each of the participating organizations—with special emphasis on power de-energization and emergency rescue techniques.
 - b) Working from scaffolding and ladders.
 - c) Working with power tools.
 - d) The importance of safety glasses.
 - e) Availability of other safety equipment if needed is on hand.
2. Answer any questions on safety procedures.

B. Staff Briefing

1. Cover all shutdown procedures.
2. Assign people to specific tasks.
3. Explain the use and operation of any new equipment being used.

C. Shutdown Procedure

1. Contractor shall proceed with the shutdown schedule involving equipment to be inspected and serviced during normal work hours as follows:
 - a) Motor Control Center #1 (MCC #1)
 - b) Motor Control Center #2 (MCC #2)
All starters to be cleaned and inspected, changing any component necessary.
 - c) Motor Control Center #3 (MCC #3)

EXHIBIT XII
CORROSION TEST REQUIREMENTS
SOLICITATION NO.: S33-T23961

- d) Motor Control Center #4 (MCC #4)
Entire MCC to be cleaned and inspected.

- 2. Contractor shall proceed with the shutdown schedule involving equipment to be serviced during scheduled shutdown hours as follows:
 - a) Inside Central Plant
 - 1) Motor Control Center #1 (MCC #1)
 - 2) Motor Control Center #2 (MCC #2)
 - 3) Motor Control Center #4 (MCC #4)
 - 4) 480 Volt Power House Switchboard (MCC #1, MCC #4)
 - 5) 4160 Volt Motor Starter (Chiller #4)
 - 6) 4160 Volt Motor Starter (Chiller #5)
 - 7) 4160 Volt Motor Starter (Chiller #7)
 - 8) 4160 Volt Motor Starter (Chiller #9)
 - 9) Motor Control Centers 1-17

 - b) Outside Central Plant
 - 1) Transformer 12470/480/277 - T-3
 - 2) Transformer 12470/4160 (Chiller #4) - T-1
 - 3) 15KV Westinghouse Fused Air Disconnects
 - 4) All related secondary high voltage panels in white building across the street from central plant.

 - c) Cooling Towers
 - 1) Motor Control Center #3 (MCC #3)
 - 2) All pumps, cooling tower fan motor control centers
 - 3) Shutdown and Service Procedures
 - a) Clean and vacuum insulators and check buss support.
 - b) Clean and vacuum buss bars.
 - c) Clean and vacuum components.
 - d) Tighten all electrical connections.
 - e) Visually inspect for any signs of overheating or damaged parts.
 - f) Check contacts on all starters for excessive pitting.
 - g) Check contacts and arc shields on all breakers.
 - h) Check for evidence of corona on insulators, barriers and cable terminations.

EXHIBIT XII
CORROSION TEST REQUIREMENTS
SOLICITATION NO.: S33-T23961

- i) Take transformer oil sample for testing PCB content and conductivity.
- j) Check transformers for signs of oil leakage.

4. Materials Orientation and Location

Prior to work being performed, the electrical staff will be shown repair parts and equipment locations within the Central Plant facility.

3.1.3 Post Shutdown

A. Contractor debriefing of Shutdown Team

- 1. Debriefing will be scheduled as soon as practical following the shutdown and accomplishments and problems discussed. Corrective actions or solutions for problems encountered will be noted. Any incomplete project will be rescheduled by Contractor.
- 2. Prepare a list of additional work to be completed after shutdown period.

B. Work Summary Report (outline)

- 1. An outline of the shutdown is to be prepared from the mechanical and operational data covered and must be submitted in draft form to the Assistant Airport Manager, Maintenance, for his review and comment before the final report is prepared and submitted by Contractor.

4.0 Mechanical Maintenance Shutdown Procedure

A. Pre-Shutdown

- 1. Six (6) months prior to shutdown, Contractor shall:
 - a. Identify work that cannot be performed during normal operation of plant.
 - b. Begin development of shutdown outline to structure a plan of execution for Contractor personnel in draft format.
 - c. Schedule and hold necessary meetings to discuss goals and objectives of the shutdown.
- 2. Three (3) months prior to shutdown, Contractor shall:
 - a. Update scheduled plans and add any new objectives.
 - b. Determine availability of parts, materials, etc. needed for shutdown.
 - c. Prepare and submit a shutdown outline to HAS for approval.
- 3. One (1) month prior to shutdown, Contractor shall:
 - a. Prepare a list of tasks to be performed and discuss with his maintenance staff and the Director.
 - b. Verify that tools and replacement parts necessary to complete scheduled work assignments are inventoried and any not in stock placed on order.

EXHIBIT XII
CORROSION TEST REQUIREMENTS
SOLICITATION NO.: S33-T23961

- c. Verify all repair items red tagged are sequence numbered according to the priority of completion.
 - d. Verify availability of rental equipment required for shutdown and place on order.
 - e. Verify IAH Water Plant #1 is notified in writing of shutdown date.
4. One (1) week prior to shutdown, Contractor shall:
- a. Hold a safety meeting covering the dangerous or hazardous aspects of the shutdown with all personnel.
 - b. Ensure rental scaffold, as required, is delivered and set up in designated areas.
 - c. Verify all personnel assigned to work shutdown are scheduled.
5. Two (2) days prior to shutdown, Contractor shall:
- a. Check to see that all repair and replacement parts are moved to appropriate sites.
 - b. Ensure personnel scheduled to work shutdown are briefed and duties assigned.
- B. Shutdown Execution
1. If any work involves steam or hot water lines and/or related equipment, Contractor shall ensure:
- a. The boilers are secured and equipment allowed to cool sufficiently to prevent a hazardous work condition.
 - b. All lines or appliances to be drained are done at this time.
 - c. Power generators are started; all panel switchgear is turned off; main power is secured by Reliant Energy HL&P; temporary lighting is wired into power generator; Chiller oil heaters are wired to generator; scheduled work is started.
2. After all work is completed, all lines and appliances are to be refilled; boilers slowly brought up to temperature and put into service; hot water generators brought up to temperature slowly to allow for thermal expansion.
- C. Post-Shutdown
1. Contractor Debriefing of Shutdown Team
- a. A debriefing will be scheduled as soon as practical following the shutdown and accomplishments and problems discussed. Corrective actions or solutions for problems encountered will be noted. Any incomplete project will be rescheduled.
 - b. Prepare list of additional work to be completed after shutdown period.
2. Work summary report
- a. An outline of the shutdown is to be prepared from the electrical and operational data collected and submitted to the Director in draft form for review and comment before the final report is prepared and submitted by Contractor.

EXHIBIT XII

CORROSION TEST REQUIREMENTS

SOLICITATION NO.: S33-T23961

1.0 GENERAL

Contractor shall test and monitor corrosion rates for the chill water, condensate, and condenser water systems. The acceptable operating ranges are set forth in Section 3.0 below. Contractor shall provide Coupon Racks at the Central Plants; one (1) in each of the water piping systems, to allow scheduled monitoring of both mild steel and copper corrosion rates. In addition, Contractor shall install, approximately eight (8) coupon racks, in any closed loop systems in the terminals that don't have them. These are to be included in the require test procedures. Also Contractor shall change the nitrite based chill water treatment system to a silica based program in the main chill water loop. Operating ranges to be within acceptable industry standards for this type of treatment program.

2.0 PROCEDURES

Each of the coupon racks must contain, or be fitted for, both mild steel and copper coupons to measure corrosion rates for each metal.

Each coupon insert carrier must be fitted with a ring for attachment of a serially numbered meter band that is secured to the outer portion of the coupon rack. Once each coupon is inserted and securely tightened, a tamper-proof metal band must be attached. The number on the metal band shall be the same as the number stamped on the coupon.

Contractor shall remove and replace the coupons at 90-day intervals and send the exposed coupons to an independent testing laboratory that specializes in or routinely provides analysis of corrosion rates for the metals utilized for coupons (copper and mild steel). A City representative must be present during removal and replacement of all coupons to verify the coupon has not been tampered with and that the new coupon is properly installed and secured. The testing lab must provide the following certified information concerning the test results for each test coupon.

1. Coupon number
2. Period of exposure
3. Coupon weight loss
4. Corrosion rate in mils per year
5. Type of corrosion observed; general, pitting, etc.
6. Percentage of deviation of corrosion rates from established industry standards for systems of like type, size and complexity.
7. Lab technician's certified professional assessment of the test results as it relates to the affect on equipment, piping and the system as a whole.

Contractor shall forward a copy of the independent testing laboratory's report to the Director along with the coupons tested within three (3) days of receiving the report. At the option of the Director, Contractor may be instructed to have a second analysis performed on the coupons. This option applies for any testing cycle at any time.

EXHIBIT XII
CORROSION TEST REQUIREMENTS
SOLICITATION NO.: S33-T23961

If this option is exercised, the Director will select the testing lab to be utilized. Contractor shall deliver the coupons to the testing lab for analysis. The test information requested will be the same as specified in the initial test. The results, with coupons, will be delivered to the Director. Upon receipt, results of the two tests will be compared. Significant deviations in the two independent tests will result in a scheduled meeting of both parties to verify the accuracy of both tests and appropriate action for securing a valid analysis mutually acceptable to both parties. If, based on the results of the tests referenced above, the Director determines that the system is being negatively impacted due to corrosion beyond standards established by the industry, then proposed service credits may be invoked for that test interval; it being understood between the parties that such negative impact will cause damage to the City.

3.0 ACCEPTABLE OPERATING RANGES

A.	Cooling Towers:	Operating Range
	PH	7.8 - 8.3
	Molybdate	5 - 6 ppm
	Conductivity	2800 - 3200 μ mhos
B.	Steam Boilers:	Operating Range
	Hydrate Alkalinity	200 ppm (minimum)
	Total Alkalinity	1500 ppm (maximum)
	Phosphate	20 - 40 ppm
	Sulfite	20 - 40 ppm
	Conductivity	2200 - 2600 μ mhos
C.	Closed Loops:	Operating Range
	Hot Water Nitrite	600 - 800 ppm
D.	Condensate:	Operating Range
	PH	7.6 - 8.4

EXHIBIT XIII
GENERAL CONFORMITY QUESTIONNAIRE
SOLICITATION NO.: S33-T23961

- 1. Special Instructions to Offeror(s)**
Contractor fully understands the above requirement and complies. Yes No
If "No" Explain: _____
- 2. Uniform Instructions to Offeror(s)**
Contractor fully understands the above requirement and complies. Yes No
If "No" Explain: _____
- 3. General Terms and Conditions**
Contractor fully understands the above requirement and complies. Yes No
If "No" Explain: _____
- 4. Special Terms and Conditions**
Contractor fully understands the above requirement and complies. Yes No
If "No" Explain: _____
- 5. Site Visit**
Contractor fully understands the above requirement and complies. Yes No
If "No" Explain: _____
- 5. Proposal Outline and Minimum Content Requirements**
Contractor fully understands the above requirement and complies. Yes No
If "No" Explain: _____
- 10. Contractor's Qualifications**
Contractor fully understands the above requirement and complies. Yes No
If "No" Explain: _____
- 11. Performance Bond**
Contractor full understands the above requirement and complies. Yes No
If "No" Explain: _____
- 12. Sample Contract**
Contractor full understands the above requirement and complies. Yes No
If "No" Explain: _____

EXHIBIT XIV
INCLUSION/EXCLUSION FORM
SOLICITATION NO.: S33-T23961

Contract Type
Services Contract #xxxxxxxxxx
Contract Name

INCLUSION or EXCLUSION NUMBER: _____

DATE: _____

A: INCLUDE: _____ **EXCLUDE:** _____ **EFFECTIVE DATE:** _____

B: DESCRIPTION OF UNIT INCLUDING AREA MEASUREMENT AND/OR UNIT#:

C: LOCATION:

D: REASON FOR ADDITION / DELETION OF UNIT:

PRORATE AMOUNT: _____ **MONTHLY AMOUNT:** _____

Verified By TSD: _____ **Date:** _____

Print Name:

Title: Senior Procurement Specialist

Contractor Signature: _____ **Date:** _____

Print Name:

Title: Project Manager

HAS Validation: _____ **Date:** _____

Print Name:

Title: Project Manager