



CITY OF HOUSTON, TEXAS
NOTICE OF REQUEST FOR PROPOSAL
(RFP)
SOLICITATION NO. S10-H25308

**“PARTNERING TO
 BETTER SERVE
 HOUSTON”**

NIGP CODE: 803-61
SOLICITATION DUE DATE/TIME: March 19, 2015 AT 2:00 P.M., CST

SUBMITTAL LOCATION:
 City Secretary’s Office
 City Hall Annex, Public Level
 900 Bagby Street
 Houston, Texas 77002

DESCRIPTION PUBLIC ADDRESS SYSTEM SERVICES FOR THE HOUSTON AIRPORT SYSTEM

PRE-PROPOSAL CONFERENCE:	DATE February 19, 2015	TIME 10 a.m.	LOCATION HAS Supply Chain Office 18600 Lee Road Conf. Rm. 113
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This Proposal is available on the Internet from: http://purchasing.houstontx.gov/bid_download.aspx. If not City-certified to do business within Houston, click here first: http://purchasing.houstontx.gov/Bid_RegForm.aspx

The Houston Airport System (HAS) is seeking proposals (“Proposals”) from public address system contractors (“Proposers”) to provide professional public address system design and implementation services for George Bush Intercontinental Airport and William P. Hobby Airport.

In accordance with T.L.G.C. § Chapter 252, competitive sealed Proposals for the services specified will be received by the City’s Secretary’s Office of the City of Houston at the above specified location, until the time and date cited. Proposals 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 Proposals will not be considered.

Proposals must be submitted in a sealed envelope or package with the Solicitation Number and the Proposer’s name and address clearly indicated on the envelope or package. All Proposals must be completed in ink or typewritten. Additional instructions for preparing a Proposal are included in this Solicitation.

PROPOSERS ARE STRONGLY ENCOURAGED TO CAREFULLY READ THE ENTIRE SOLICITATION.

Solicitation Contact Person:

Greg Hubbard
 Senior Procurement Specialist

Lourdes Coss, City Chief Procurement Officer

Greg.Hubbard@houstontx.gov
 E-Mail Address

2/3/15
 Date

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SPECIAL INSTRUCTIONS TO PROPOSER(S)
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1.0 SPECIAL INSTRUCTIONS TO PROPOSERS

1.1 SUBMITTAL PROCEDURE

- 1.1.1 **Eight (8)** copies of the Proposal, including **one (1)** printed original signed in BLUE ink, as well as **two (2)** complete copies of your Proposal on two (2) separate memory sticks, labeled with the appropriate RFP name and number that includes a complete copy of all information in the printed original. Proposals are to be submitted in a sealed envelope bearing the assigned Title and Solicitation Number of the RFP document to:

**City Secretary Office
City Hall Annex
900 Bagby
Humble, Texas 77002**

The Proposal Package should clearly identify the name and address of the Proposer and with labeled Package to read: "RFP S10-H25308, Public Address System Services for The City of Houston/HAS."

- 1.1.2 The deadline for the submittal of the Proposal to the City Secretary's Office 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.
- 1.1.3 Proposers may elect to either mail or personally deliver their Proposals to the City Secretary's Office.
- 1.1.4 The City of Houston shall bear no responsibility for submitting responses on behalf of any Proposer. Proposer(s) may submit their Proposal to the City Secretary's Office any time prior to the stated deadline.
- 1.1.5 If there are differences between attachments of the Proposal and the Proposal; the Proposal shall govern.

1.2 PROPOSAL FORMAT

- 1.2.1 The Proposal should be prepared (without variance) in the format described, electronically generated, and the printed original signed in BLUE ink. They should not be submitted in elaborate or expensive binders. Legibility, clarity, and completeness are important and essential. The City of Houston (City) shall not be responsible for any costs incurred by Proposers in the preparation or delivery of Proposals.
- 1.2.2 The Proposal must be signed by an individual(s) legally authorized to bind the Proposer(s), and must contain a statement that the Proposal and the financial offer(s) contained therein shall remain firm for a period of one hundred eighty (180) days, unless the parties mutually agree to an extension of time in writing.

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1.3 PRE-PROPOSAL CONFERENCE AND TOUR

1.3.1 A Pre-Proposal Conference will be held at the date, time and location as indicated on the first page of the RFP document. Interested Proposer(s) should plan to attend. It will be assumed that potential Proposer(s) attending this meeting have reviewed the RFP in detail, and are prepared to bring up any substantive questions not already addressed by HAS.

1.3.2 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 (LOC) prior to the Proposal due date. Verbal responses will not alter the specifications, terms, and conditions as stated herein.

1.3.3 **A tour of George Bush Intercontinental Airport will be scheduled for all interested parties. The tour will take place immediately following the Pre-Proposal Conference;** however, the tour is not mandatory. In order to facilitate security clearance for participants, HAS requests that interested parties advise HAS of their intention to participate in the tour.

1.3.4 **A tour of William P. Hobby Airport is scheduled for 9:00 a.m. CST, February 20, 2015;** however, this tour is also not mandatory. In order to facilitate security clearance for participants, HAS requests that interested parties advise HAS of their intention to participate in the tour.

To register for the tour(s), e-mail or fax the attached Registration Forms (Exhibits XI and XII) no later than 4:00 p.m. CST, February 17, 2015 to:

Houston Airport System
Attn: Governor Henderson
Governor.Henderson@houstontx.gov
Fax: 281-233-1685

1.3.5 In accordance with the Americans with Disabilities Act of 1990, all persons who are disabled and who need special accommodations to participate in the tour because of a disability shall contact Governor Henderson, no later than five (5) days prior to the tour at e-mail: Governor.Henderson@houstontx.gov.

1.4 TOUR SECURITY PROCEDURES

1.4.1 **Parties interested in attending a Pre-Proposal tour must sign up by February, 17, 2015 in order to participate.** Submit the Registration Form as instructed above. If one elects not to participate in the tour, then pre-registration is not required. It is requested that your firm limit the number of tour attendees to no more than three (3) people.

1.4.2 For security purposes, attendees planning to participate on the tour must bring current picture identification (driver's license or passport) to the tour for security screening.

1.5 ADDITIONAL INFORMATION AND SPECIFICATION CHANGES

1.5.1 Requests for additional information and questions should be addressed to the Finance Department, Strategic Purchasing Division Buyer, Greg Hubbard at 832.393.8748, or by e-mail to: Greg.Hubbard@houstontx.gov no later than 4:00 p.m., CST, February 24, 2015. The City of Houston shall provide written response to all questions received in writing before the submittal deadline. Questions received from all Proposer(s) shall be answered and sent to all Proposer(s) who are listed as having obtained the RFP.

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Proposer(s) shall be notified in writing of any changes in the specifications contained in this RFP.

1.6 LETTER(S) OF CLARIFICATION

1.6.1 All Letters of Clarification and interpretations to this RFP 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 one's Proposal. All contacts that any Proposer may have had before or after receipt of this RFP with any individual, employees, or representatives of the City and any information that may have been read in any news media or seen or heard in any communication facility regarding this RFP should be disregarded in preparing responses.

1.6.2 The City of Houston does not assume responsibility for the receipt of any Letters sent to Proposer(s).

1.7 EXAMINATION OF DOCUMENTS AND REQUIREMENTS

1.7.1 Each Proposer 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.

1.7.2 Before submitting a Proposal, each Proposer 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 Proposer from obligation to comply, in every detail, with all provisions and requirements of the RFP.

1.8 EXCEPTIONS TO TERMS AND CONDITIONS

1.8.1 Any exceptions to the terms and conditions of the RFP shall be raised by Proposers during the question and answer period for this RFP. Any changes to be made by HAS shall be issued by Letter of Clarification prior to the Proposal Due Date.

1.8.2 All exceptions included with the Proposal shall be submitted in a clearly identified separate section of the Proposal in which the Proposer 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(s) or designee in a written statement. The Proposer's preprinted or standard terms will not be considered by the City as a part of any resulting contract.

1.8.3 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.

1.9 POST-PROPOSAL DISCUSSIONS WITH PROPOSER(S)

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

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1.10 **PROTEST**

1.10.1 A protest shall comply with and be resolved, according to the City of Houston Procurement Manual http://purchasing.houstontx.gov/docs/Procurement_manual.pdf and rules adopted thereunder. Protests shall be submitted in writing and filed with both, the City Attorney and the Solicitation contact person. A pre-award protest of the RFP shall be received five (5) days prior to the solicitation due date and a post-award protest shall be filed within five (5) days after City Council approval of the contract award.

1.10.2 A protest shall include the following:

- (1) The name, address, e-mail, and telephone number of the protester;
- (2) The signature of the protester or its representative who has the delegated authority to legally bind the person protesting;
- (3) Identification of the RFP description and the RFP or contract number;
- (4) A detailed written statement of the legal and factual grounds of the protest, including copies of relevant documents, etc.; and
- (5) The desired form of relief or outcome, which the protester is seeking.

1.11 **NO CONTACT PERIOD**

1.11.1 Neither Proposer(s) nor any person acting on Proposer(s)'s behalf shall attempt to influence the outcome of the award by the offer, presentation or promise of gratuities, favors, or anything of value to any appointed or elected official or employee of the City of Houston, their families or staff members. All inquiries regarding the solicitation are to be directed to the designated SPD Solicitation Contact Person identified on the first page of the solicitation. Upon issuance of the solicitation through the pre-award phase and up to the date the City Secretary publicly posts notice of any City Council agenda containing the applicable award, aside from Proposer's formal response to the solicitation, through the pre-award phase, written requests for clarification during the period officially designated for such purpose by the City Representative, neither Proposer(s) nor persons acting on their behalf shall communicate with any appointed or elected official or employee of the City of Houston, their families or staff through written or oral means in an attempt to persuade or influence the outcome of the award or to obtain or deliver information intended to or which could reasonably result in an advantage to any Proposer. However, nothing in this paragraph shall prevent a Proposer from making public statements to the City Council convened for a regularly scheduled session after the official selection has been made and placed on the City Council agenda for action, or to a City Council committee convened to discuss a recommendation regarding the solicitation.

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2.0 UNIFORM INSTRUCTIONS TO PROPOSERS

- 2.1 This RFP does not commit HAS 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.
- 2.2 The Proposals will become part of HAS's official files without any obligation on HAS's part. All Proposals shall be held confidential from all parties other than HAS until after the Contract is awarded. After award, the Proposals shall be available to the public.
- 2.3 HAS shall not be held accountable if material from Proposals is obtained without the written consent of the Proposer by parties other than HAS, at any time during the Proposal evaluation process.
- 2.4 In the event a Proposer submits trade secret information to HAS, the information must be clearly labeled as a "**Trade Secret.**" HAS will maintain the confidentiality of such trade secrets to the extent provided by law.
- 2.5 Proposer(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 committee).
- 2.6 Proposer(s) shall not collude in any manner, or engage in any practices with any other Proposer(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, HAS can combine or consolidate Proposals, or portions thereof, for the purposes mentioned above.
- 2.7 All Proposals submitted must be the original work product of the Proposer. The copying or paraphrasing of the work product of another Proposer is not permitted.
- 2.8 The RFP and the related responses of the selected Proposer, will by reference (within either a contract or purchase order) become part of any formal Agreement between the selected Proposer and HAS. HAS and the selected Proposer may negotiate a Contract or Contracts for submission to City Council for consideration and approval. In the event an Agreement cannot be agreed with the selected Proposer, HAS reserves the right to select an alternative Proposer. HAS reserves the right to negotiate with alternative Proposer the exact terms and conditions of the Contract to be awarded.
- 2.9 Proposer(s), their authorized representatives and their agents are responsible for obtaining, and shall 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.
- 2.10 The Agreement shall become effective on or about July 27, 2015 for a term of three (3) years with two one (1) year extensions for a maximum total of five (5) years.
- 2.11 If necessary for the completion of tasks required under the project, the City will provide reasonable working space to the Prime Contractor.
- 2.12 Clerical support and reproduction of documentation costs shall be the responsibility of the Proposer.

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- 2.13 Selected Proposer's personnel essential to the continuity, and the successful and timely completion of the Contract should be available for the duration of the Contract term unless substitutions are approved in writing by HAS Project Manager.
- 2.14 The Selected Proposer will be expected to adhere to all standard contractual requirements of HAS which shall include, but are not limited to, provisions for: Time Extensions; Appropriation of Available Funds; Approvals; Term and Termination; Independent Contractor; Assignments; Subcontractors; Parties of Interest; Non-Waiver; Applicable Laws; Notices; Use of Work Products; Equal Employment Opportunity; Force Majeure; and Inspections and Audits.
- 2.15 HAS may terminate its performance under a Contract in the event of a default by the Selected Proposer and a failure to cure such default after receiving notice of default from HAS. Default may result from the Selected Proposer's failure to perform under the terms of the Contract or from the Proposer becoming insolvent, having a substantial portion of its assets assessed for the benefit of creditors, or having a receiver or trustee appointed. A Contract may also be terminated for convenience.
- 2.16 Selected Proposer must promptly report to the HAS Project Manager any conditions, transactions, situation, or circumstances encountered by the Selected Proposer that would impede or impair the proper and timely performance of the Contract.
- 2.17 HAS retains sole discretion and reserves the right to cancel this RFP, or to reject any or all Proposals received prior to Contract award.
- 2.18 HAS reserves the right to waive any minor informality concerning this RFP, or to reject any or all Proposals or any part thereof.
- 2.19 HAS reserves the right to request clarification of any Proposal after they have been received.
- 2.20 HAS reserves the right to select elements from different Proposals and to combine and consolidate them in any way that best serves HAS's interest. HAS reserves the right to reduce the scope of the project and evaluate only the remaining elements from all Proposals. HAS reserves the right to reject specific elements contained in all Proposals and to complete the evaluation process based only on the remaining items.
- 2.21 The selected Proposer(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.
- 2.22 After Contract execution, the Selected Proposer 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 HAS and subcontractors. Any subcontracting must be specified in the Proposal. Any subcontracting not specified in the Proposal will need prior written approval from HAS Project Manager.
- 2.23 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.
- 2.24 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

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subcontractor to use the process, or provide another process comparable to that which is required and which is acceptable to HAS, all at no additional cost or liability to HAS.

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**GENERAL TERMS AND CONDITIONS
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3.0 GENERAL TERMS AND CONDITIONS

3.1 INDEMNITY AND RELEASE

3.1.1 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.

3.1.2 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:

3.1.2.1 Prime Contractor/Supplier and/or its agents', employees', officers', directors', contractors', or subcontractors' (collectively in numbered paragraphs 1.1-1.3, "Prime Contractor/Supplier") actual or alleged negligence or intentional acts or omissions;

3.1.2.2 The City's and prime contractor/supplier's actual or alleged concurrent negligence, whether prime Contractor/Supplier is immune from liability or not; and

3.1.2.3 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.

3.1.2.4 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 \$1,000,000 per occurrence. Prime Contractor/Supplier shall not indemnify the City for the City's sole negligence.

3.1.2.5 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.

3.1.3 INDEMNIFICATION--SUBCONTRACTOR'S INDEMNITY

3.1.3.1 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

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indemnity to the City.

3.2 INDEMNIFICATION PROCEDURES

3.2.1 NOTICE OF CLAIMS

3.2.1.1 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:

3.2.1.2 A description of the indemnification event in reasonable detail,

3.2.1.3 The basis on which indemnification may be due, and

3.2.1.4 The anticipated amount of the indemnified loss.

3.2.2 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.

3.2.3 DEFENSE OF CLAIMS

3.2.3.1 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.

3.2.3.2 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.

3.3 INSURANCE REQUIREMENTS

3.3.1 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.**

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- 3.3.2 Comprehensive General Liability including Contractual Liability and Automobile Liability insurance shall be in at least the following amounts shown below:
 - 3.3.2.1 Commercial General Liability Insurance including Contractual Liability:
 - 3.3.2.1.1 \$500,000 per occurrence
 - 3.3.2.1.2 \$1,000,000 aggregate, (defense costs excluded from face value of the policy)
 - 3.3.2.2 Workers' Compensation:
 - 3.3.2.2.1 Amount shall be statutory amount
 - 3.3.2.2.2 **Employer's Liability cannot be used as a substitute for Workers' Compensation**
 - 3.3.2.3 Automobile Liability (See Note Below):
 - 3.3.2.3.1 \$1,000,000 Combined Single Limit per occurrence
 - 3.3.2.3.2 Defense costs are excluded from the face amount of the policy. Aggregate Limits are per 12-month policy period unless otherwise indicated.
 - 3.3.2.4 Employer's Liability:
 - 3.3.2.4.1 Bodily injury by accident \$100,000 (each accident)
 - 3.3.2.4.2 Bodily injury by disease \$100,000 (policy limit)
 - 3.3.2.4.3 Bodily injury by disease \$100,000 (each employee)
- 3.3.3 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.
- 3.3.4 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 Director 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 Director, 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.
- 3.3.5 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

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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.

- 3.3.5.1 (See Insurance Requirements Exhibit for a sample insurance certificate format.)
- 3.3.5.2 Only unaltered original insurance certificates endorsed by the underwriter are acceptable. Photocopies are unacceptable.
- 3.3.6 Contractor shall maintain in effect certain insurance coverage, which is described as follows:
 - 3.3.6.1 Form of Policies: The Director may approve the form of the insurance policies, but nothing the Director does or fails to do relieves Contractor from its duties to provide the required coverage under this Agreement. The Director's actions or in-actions do not waive the City's right under this Agreement.
 - 3.3.6.2 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.
 - 3.3.6.3 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.
 - 3.3.6.4 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.
 - 3.3.6.5 Cancellation: Each policy must state that it may not be canceled, materially modified, or non-renewed unless the Contractor gives the Director 30 days' advance written notice. Contractor shall give written notice to the Director 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.
 - 3.3.6.6 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.
 - 3.3.6.7 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.
 - 3.3.6.7.1 All certificates of insurance submitted by Contractor shall be accompanied by endorsements for additional insured coverage in favor of the City for Commercial General Liability and Automobile Liability policies; and waivers of subrogation in favor of the City for Commercial General Liability, Automobile Liability, and Worker's Compensation/Employers' Liability policies. For a list of pre-approved endorsement, forms see <http://purchasing.houstontx.gov/forms.shtml>. The Director will consider all other forms on a case-by-case basis.

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- 3.3.6.8 Liability for Premium: Contractor shall pay all insurance premiums, and the City shall not be obligated to pay any premiums.
- 3.3.6.9 Joint Venture Partners and Subcontractors: Contractor shall require all joint venture partners, subcontractors or franchisees 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 or joint venture agreement, but in no case less than \$2,000,000 per occurrence. Contractor shall provide copies of insurance certificates to the Director.
- 3.3.6.10 Proof of Insurance: On the effective date and at any time during the Term of this Agreement, Contractor shall furnish the Director with Certificates of Insurance and all endorsements, along with an Affidavit from Contractor confirming that the Certificates accurately reflect the insurance coverage maintained. If requested in writing by the Director, Contractor shall furnish the City with certified copies of Contractor's actual insurance policies.
- 3.3.6.10.1 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, 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
- 3.3.6.10.2 Purchase the required insurance with City funds and deducts the cost of the premiums from amounts due to Contractor under this Agreement.
- 3.3.6.10.3 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.
- 3.3.6.11 Other Insurance: If requested by the Director, Contractor shall furnish adequate evidence of Social Security and Unemployment Compensation Insurance, to the extent applicable to Contractor's operations under this Agreement.

3.4 CONTRACTOR PERFORMANCE LANGUAGE

- 3.4.1 Contractor shall make citizen satisfaction a priority in providing services under this Contract. Contractor's employees shall be trained to be customer-service oriented and to positively and politely interact with citizens when performing Contract services. Contractor's employees shall be clean, courteous, efficient, and neat in appearance at all times and committed to offering the highest degree of service to the public. If, in the Director'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.

3.5 INSPECTIONS AND AUDITS

- 3.5.1 City representatives shall 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 six (6) years after this Agreement terminates. This provision does not affect the applicable statute of limitations.

**GENERAL TERMS AND CONDITIONS
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3.6 INTERPRETING SPECIFICATIONS

3.6.1 *The specifications and product references contained herein are intended to be descriptive rather than restrictive. HAS 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 Proposer(s) from recommending alternative solutions offering comparable or better performance or value to HAS. Unless specifically stated otherwise with regard to a specific item of equipment, it should be assumed that HAS 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.*

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

3.7 CONTRACTOR DEBT

3.7.1 **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. CONTRACTOR SHALL PAY THE DEBT WITHIN 30 DAYS OF EITHER SUCH NOTIFICATION.**

FROM ANY PAYMENTS OWED TO CONTRACTOR UNDER THIS AGREEMENT, AND CONTRACTOR WAIVES ANY RECOURSE THEREFOR.

3.8 COMPETENCY OF PROPOSER

3.8.1 The receipt and opening of a Proposal shall not be construed as an acceptance of the Proposer as qualified and responsible. The City reserves the right to determine the competency and responsibility of the Proposer from information submitted with the Proposal and verification of the Proposer's qualifications from other sources.

3.9 DISQUALIFICATION OF PROPOSER

3.9.1 Although not intended to be an exhaustive list of causes for disqualification, one or more of the following causes, among others, may be considered sufficient for the disqualification of the Proposer and the rejection of its proposal:

- Evidence of collusion among Proposers
- Default on a previous project for failure to perform
- Failure to meet "Minimum Qualifications" requirements
- A non-signed and/or non-notarized "Offer and Submittal Form"

**SPECIAL TERMS AND CONDITIONS
SOLICITATION NO. S10-H25308**

4.0 SPECIAL TERMS AND CONDITIONS

4.1 LOCAL MINORITY/WOMEN BUSINESS ENTERPRISE PARTICIPATION

4.1.1 Proposer shall comply with the City's Minority and Women Business Enterprise ("M/WBE") program requirements as set out in Chapter 15, Article V of the City of Houston Code of Ordinances. The M/WBE goal on this project is 10% of the contract. Proposer shall provide evidence and a detail plan that demonstrates the intended award, utilization and payment to City of Houston certified M/WBE's with subcontracts and supply agreements that are equal to or greater than 10% of this Agreement or that Proposer made a Good Faith Effort. Proposer acknowledges that it has reviewed the requirements for Good Faith Efforts on file with the Mayor's Office of Business Opportunity ("OBO"), and will comply with them Pre and Post award. (Refer to Exhibit II.)

4.1.2 Proposer shall require written subcontracts with all M/WBE subcontractors and shall submit all disputes with M/WBEs to binding arbitration to be conducted in Houston, Texas, if directed to do so by the OBO Director. M/WBE subcontracts must contain the Terms set out in **Exhibit II**.

4.2 CITY CONTRACTORS' PAY OR PLAY PROGRAM

4.2.1 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" and "Certification of Agreement to Comply with Pay or Play Program" may be just cause for rejection of your Proposal.

4.3 CITY CONTRACTOR OWNERSHIP DISCLOSURE ORDINANCE

4.3.1 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 Proposers 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.

4.3.2 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 Proposal.

4.4 CITY OF HOUSTON FAIR CAMPAIGN ORDINANCE

4.4.1 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.

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4.5 DRUG DETECTION AND DETERRENCE PROCEDURES FOR CONTRACTORS

4.5.1 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 Proposer(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.

4.6 HIRE HOUSTON FIRST (EXEMPT FROM THIS SOLICITATION)

4.6.1 Designation as a City Business or Local Business

4.6.1.1 To be designated as a City or Local Business for the purposes of the Hire Houston First Program, as set out in Article XI of Chapter 15 of the Houston City Code, a Bidder or Proposer must submit the **Hire Houston First Application and Affidavit ("HHF Affidavit")** to the Director of the Mayor's Office of Business Opportunities and receive notice that the submission has been approved prior to award of a Contract. Bidders are encouraged to secure a designation prior to submission of a Bid or Proposal if at all possible.

4.6.1.2 **Download the HHF Affidavit** from the Office of Business Opportunities Webpage at the City of Houston e-Government Website at the following location:

www.houstontx.gov/obo/moreforms/hirehoustonfirstaffidavit.pdf

4.6.1.3 Submit the completed application forms to: Mayor's Office of Business Opportunity, One Stop Business Center, 900 Bagby St., Public Level, Houston, TX 77002 or Applications may be submitted by e-mail to: HHF-MOBO@houstontx.gov or faxed to 832.393.0952.

4.6.2 Award of Procurement Pursuant to a Request for Proposal, Best Value Solicitation or Alternative Delivery Method:

4.6.2.1 IN EVALUATION OF A PROPOSAL SUBMITTED UNDER ANY OF THE ABOVE PROCUREMENT METHODS, THE CITY SHALL AWARD EXTRA POINTS EQUAL TO:

- **THREE PERCENT** OF THE TOTAL EVALUATION POINTS AVAILABLE TO A "LOCAL BUSINESS," AS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES, AND
- **FIVE PERCENT** OF THE TOTAL EVALUATION POINTS AVAILABLE TO A "CITY BUSINESS," AS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES.
- UNLESS THE USER DEPARTMENT DETERMINES THAT AN AWARD TO THE LOCAL OR CITY BUSINESS WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.

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4.7 PROCUREMENT TIMELINE/SCHEDULE

4.7.1 Listed below are the important and estimated completions dates and times for this Request for Proposals (RFP).

4.7.2	<u>EVENT</u>	<u>DATE</u>
	Date RFP Issued (FR))	February 6, 2015
	Pre-Proposal Conference (TH)	February 19, 2015
	Airport Tour:	February 19, 2015 - IAH
		February 20, 2015 – Hobby
	Questions from Proposers Due to HAS	February 24, 2015 (4:00 p.m.)
	Proposal Due from Proposer(s)	March 19, 2015
	Notification of Intent to Award (<i>Estimated</i>)	May 21, 2015
	Council Agenda Date (<i>Estimated</i>)	July 15, 2015
	Contract Start Date (<i>Estimated</i>)	July 27, 2015

4.8 TIME EXTENSIONS

4.8.1 If Proposer(s) requests an extension of time to complete its performance, then the Director may, in his sole discretion, extend the time so long as the extension does not exceed 90 days. The extension must be in writing, but does not require amendment of this RFP. Proposers are not entitled to damages for delay(s) regardless of the cause of the delay(s).

4.9 PRE-PERFORMANCE CONFERENCE

4.9.1 Prior to commencing performance under the Contract(s) to be awarded, Selected Proposer(s) shall attend a Pre-Performance Conference with HAS. HAS will specify the time and place of such meeting in a written notice to Selected Proposer(s). Representatives of Selected Proposer(s) attending the Pre-Performance Conference shall include key personnel whom Selected Proposer(s) has assigned to the Contract(s) to be awarded, and who shall be authorized to bind selected Proposer(s) in matters relating to the following Pre-Performance Conference items.

However, the Director will have the right to further designate other representatives of selected Proposer(s) who must attend the Pre-Performance Conference and such designated representatives shall attend. Items to be addressed at the pre-performance Conference include the following:

- Contract administration
- Channels of communication
- Review of key personnel
- Organization and function charts reflecting the line of management authority
- Procedures to be used to ensure Contract requirements are met

4.10 SPECIAL PROVISIONS

4.10.1 The Director (“the Director of the Houston Airport System or designee”) and Selected Proposer(s) may mutually agree for the provision of other services not expressly set forth in the Contract to be awarded under the same terms and conditions as set forth herein.

4.10.2 The selected Proposer(s) shall comply with all applicable Federal rules governing security at the Airports, as may be amended from time to time.

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4.10.3 All of selected Proposer(s)'s on-site personnel, including subcontractors that perform services under the Contract to be awarded, are required to undergo a fingerprint-based criminal history records check. Fingerprints shall be collected at the Airport Badging Office.

4.10.4 The selected Proposer(s) shall obtain HAS security badges for all personnel performing services on-site, including subcontractor's personnel. The cost of badges, which is subject to change, is currently \$55.00 each at the Airports. Costs for the fingerprint-based criminal history records check are reflected in the cost of the badges. Selected Proposer(s) is responsible for the cost of badges, including replacements thereof. **The personnel losing badges will be charged for replacement badges at the then-current rate.** Badge is valid for one year and renewable at the prevailing cost. Current annual renewal cost for each badge is \$16.00.

4.10.5 The selected Proposer(s) shall display company name on both sides of all commercially-owned vehicles, and park at their expense in the areas designated by the Director. All transportation activities of the selected Proposer(s) or its subcontractors necessary to perform under the Contract to be awarded must be provided by the selected Proposer(s).

4.11 SELECTED PROPOSER'S FINANCIAL OBLIGATION

4.11.1 The selected Proposer(s) shall make timely payments to all suppliers and/or subcontractors that furnish labor, materials, and/or furnishings related to the Contract to be awarded.

4.12 TEXAS DRIVER'S LICENSE

4.12.1 The selected Proposer's employees performing work for the City must possess a valid Texas driver's license for the type of vehicle or equipment operated. Selected Proposer(s) shall ensure its employees meet this requirement.

4.13 PUBLIC RELATIONS

4.13.1 The selected Proposer(s) agrees that neither it nor its agents, subcontractors or employees shall issue or make any statements on behalf of the City with respect to any incident occurring at the Airports, or at any City facility, except when requested to do so by the Director.

4.14 PROJECT ADMINISTRATION

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

4.15 STANDARD PAYMENT TERMS

4.15.1 The City of Houston's standard payment term is to pay 30 days after receipt of invoice or receipt of goods or services, whichever is later, according to the requirements of the Texas Prompt Payment Act (Texas Gov't Code, Ch. 2251). However, the City will pay in less than 30 days in return for an early payment discount from vendor as follows:

- Payment Time - 10 Days: 2% Discount
- Payment Time - 20 Days: 1% Discount

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SOLICITATION NO. S10-H25308**

- 4.15.2 A Contractor may elect not to offer a discount for early payment and the City will make payment net 30 days. Discounts will not be considered in the award evaluation.
- 4.15.3 If the City fails to make a payment according to the early payment schedule above, but does make the pay no other penalty. When the payment date falls on a Saturday, Sunday, or official holiday when City offices are closed and City business is not expected to be conducted, payment may be made on the following business day.

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**PROPOSAL SUBMITTAL REQUIREMENTS
SOLICITATION NO. S10-H25308**

5.0 PROPOSAL OUTLINE AND MINIMUM CONTENT REQUIREMENTS:

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. Proposer(s) are encouraged to include additional relevant information.

5.1 TITLE PAGE:

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

5.2 OFFER & SUBMITTAL FORM:

5.2.1 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 PRICE CONTAINED THEREIN SHALL REMAIN FIRM FOR A PERIOD OF ONE-HUNDRED EIGHTY (180) DAYS.

5.3 LETTER OF TRANSMITTAL:

5.3.1 A letter of transmittal, limited to two (2) pages shall include:

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

5.3.1.2 A statement that the person signing the letter of transmittal is authorized to legally bind the Proposer; that the Proposal and the total price contained therein shall remain firm for a period of one hundred-eighty (180) days after receipt of the best and final offer, if any; and that the Proposal will comply with the requirements and arrangements stated in the RFP.

5.4 AIRPORT PAGING SYSTEM COMPLIANCE MATRIX QUESTIONNAIRE:

5.4.1 Contractor shall complete and submit the attached Compliance Matrix identifying the level of degree at which Proposer's solution complies with the Performance Specification. The compliance matrix questionnaire pertains to questions addressing company information, staffing/training, dealer status, design/modeling capabilities, testing equipment, airport paging specifications, prior experience, system pricing, and local service and support for the airports.

5.4.2 For responses marked as "Partially Compliant," explain on a separate supplemental sheet of paper as to the reason for being partially compliant. Responses shall reference the Section Number and shall be listed in ascending numeric order as presented in the Matrix.

5.5 DESIGN AND IMPLEMENTATION CAPABILITIES:

5.5.1 Submit a detailed summary of Proposer's experience on past design and implementation of public address system(s).

**PROPOSAL SUBMITTAL REQUIREMENTS
SOLICITATION NO. S10-H25308**

5.6 STRATEGIC OPERATIONAL PLAN:

- 5.6.1 Submit a brief statement expressing Proposer's understanding of the requirements requested.
- 5.6.2 Prepare and submit a detailed written methodology clearly describing Proposer's approach to design and install the Airport's Public Address System.

5.7 MIGRATION STRATEGY PLAN:

- 5.7.1 Provide a detailed summary on Proposer's migration strategy, cutover with an emphasis on business continuity and end-user training, to include an estimation of milestone dates. Project phases shall be designated by estimated time frames, in weeks or months.

5.8 EXPERIENCE / QUALIFICATIONS:

- 5.8.1 Proposer (including joint venture partners) with a minimum five (5) years of experience providing public address system design, installation, and maintenance services to airports and/or to public sector/local government organizations shall, in a detailed narrative, describe Proposer's background information, history, resources and/or track record. [Please limit to three (3) pages.]
- 5.8.2 Submit the name of the key Project Manager who meets the minimum three (3) years project management experience, and detail that individual's past experience on managing and coordinating related projects.
- 5.8.3 Provide resumes and an organizational chart of Proposer's key personnel responsible for the development/installation of this Project, and for the delivery of maintenance services.
- 5.8.3.1 On a separate list, Proposer shall provide a listing of staff to include each individual's position description or title, brief description of their responsibilities, years of experience, and their specific role on the team.
- 5.8.4 Provide copies of required key personnel certifications and/or driver's licenses. Proposer's employees performing work for the City must possess a valid Texas driver's license for the type of vehicle or equipment operated.
- 5.8.5 Submit a Certificate of Good Standing from the State of Texas.
- 5.8.6 Provide a minimum of four (4) references for similar projects of size and scope with current contact names to verify and qualify your working relationship with those firms. Include in your submission all project descriptions, and the contact name phone numbers and addresses.

5.9 PRICE PROPOSAL (EXHIBIT III) / RELATED FEES:

- 5.9.1 In a separate sealed envelope marked, "Price Proposal, S10-H25308," submit the five (5) required forms [Exhibit III, Attachment A] to include manufacturer names, model numbers, unit cost, extended costs, and total cost on labor for one unit each of "material" installed.
- 5.9.2 Provide a breakdown of the following project-related fee services:
 - 5.9.2.1 Provide and submit all detailed cost elements of the annual maintenance and repair plan, and list out the lump sum annual costs for years one through five. (See Exhibit III,

**PROPOSAL SUBMITTAL REQUIREMENTS
SOLICITATION NO. S10-H25308**

Attachment-A Fee Schedule.)

5.9.2.2 Provide a lump sum cost on the design/mobilization/installation of the Public Address System at both, IAH and Hobby Airports.

5.9.2.3 General Labor Rates and Classification:

Provide a list of classification names and labor rates for one (1) hour of service. (See Exhibit III, Attachment-A Fee Schedule.)

5.10 FINANCIAL STATEMENTS:

5.10.1 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 either a) your Dunn & Bradstreet Report, or b) Federal Tax Forms filed with the Internal Revenue Service (IRS) for the past two years.

5.11 MINORITY WOMEN DISADVANTAGE BUSINESS ENTERPRISE:

5.11.1 Proposer shall submit a proposed M/WBE Plan with a Proposer/Subcontractor-signed and dated "Letter of Intent Form." (See attached EXHIBIT II, Letter of Intent Form.)

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**OTHER CONTENT REQUIREMENTS
SOLICITATION NO. S10-H25308**

6.0 OTHER CONTENT REQUIREMENTS:

- 6.1 Pay or Play Forms (Exhibit X)
- 6.2 List of References and List of Proposed Subcontractors (Exhibit I)
- 6.3 Fair Campaign Ordinance Form "A" (Exhibit V)
- 6.4 Affidavit of Ownership or Control (Exhibit VI)
- 6.5 Drug Compliance Agreement Attachment "A" and Contractor's Certification of No Safety Impact Positions Attachment "C" (Exhibit VII)
- 6.6 Anti-Collusion Statement (Exhibit VIII)
- 6.7 Conflict of Interest Questionnaire (Exhibit IX)
- 6.8 Requested Information Outlined in the Scope of Work and Other Additional Relevant/Supporting Information

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EVALUATION AND SELECTION CRITERIA
SOLICITATION NO. S10-H25308

7.0 EVALUATION AND SELECTION PROCESS

7.1 Evaluation Summary

7.1.1 Each Proposal received will be reviewed for documentation of minimum qualifications, completeness, and adherence to the RFP requirements. HAS, at its sole discretion may choose to develop a short list of Proposers for further consideration. Short-listed Proposers may be scheduled for a structured oral presentation and/or interview. Such presentations will be at no cost to HAS. At the end of the oral presentation and/or interview, the evaluation of the short-listed Proposers will be completed. However, the evaluation committee reserves the right to issue letters of clarity when deemed necessary to any or all Proposers. The oral presentations, demonstrations, and/or interview may be recorded and/or videotaped.

7.2 Selection Process

7.2.1 The award of this Contract(s) will be made to the Proposer(s) offering the response which best meets the needs of HAS. HAS may make investigations, as it deems necessary, to determine the capabilities of the Proposer(s) to provide public address system services. The Proposer(s) shall furnish to HAS such data as HAS may request for this purpose. HAS reserves the right to reject any offer if the evidence submitted by or the investigation of the Proposer(s) fails to satisfy HAS, or if a Proposer is deemed unqualified to provide the services contemplated.

7.2.2 The failure to provide all the requested information and executed forms may result in the Proposer being deemed non-responsive or incomplete, and not evaluated. The City reserves the right to waive any minor deficiencies at its sole discretion.

7.2.3 Houston Airport System has sole discretion and reserves the right to cancel this RFP or reject any or all RFPs received prior to the contract award.

7.3 Evaluation Criteria

7.3.1 Responsiveness of Proposal:

7.3.1.1 Compliance with all the "material" submission requirements of the RFP.

7.3.2 Technical Compliance:

7.3.2.1 Airport Paging System Compliance Matrix (Attachment 1A). The questionnaire will measure the level of compliance pertaining to company information, staffing/training, dealer status, design/modeling capabilities, testing equipment, airport specifications, prior experience, system pricing, and local service and support for the airports.

7.3.2.2 Former Design and Implementation Plan Experience. Quality on past design and implementation of airport public address systems.

7.3.2.3 Strategy/Operational Plan. Quality level of detail of a written methodology clearly describing Proposer's current approach to the design and installation of the airports' public address system.

7.3.2.4 Migration Strategy Plan. A detailed account describing transitional periods while performing upgrades and/or migrations to the public address systems, with a level of

quality on a migration strategy with an emphasis on business continuity and end-user training to ensure a smooth transition.

7.3.3 Experience/Qualifications:

- 7.3.3.1 Demonstrated experience Proposer of meeting the minimum five (5) years of experience designing, installing, and maintaining services to airports and/or to public sector/local government organizations.
- 7.3.3.2 Quality of detail on Project Manager's minimum three (3) years project management experience and coordination of public address system projects.
- 7.3.3.3 Overall qualifications and experience of resumes for key personnel directly involved and responsible for the development/installation and maintenance services of public address systems, and presentation of a clearly-defined organizational chart
- 7.3.3.4 Quality of details and thoroughness on Proposer's submitted list of staff to include each individual's position description or title, brief description of their responsibilities, years of experience, and their specific role on the team, pertaining to Houston Airport's public address system.
- 7.3.3.5 Qualifications to conduct business in the state of Texas on key personnel possessing required certifications and/or valid Texas driver's licenses for the necessary type of vehicle or equipment to be operated.
- 7.3.3.6 Demonstration of proof that Proposer possesses a Certificate of Good Standing from the State of Texas.
- 7.3.3.7 Providing the required detailed information on a minimum of four (4) references for similar projects of size and scope of the Houston Airport public address system, and to the level of quality responses received from those reference checks.

7.3.4 Financial Strength (Pass/Fail):

- 7.3.4.1 Meeting the submittal requirements and to the strength of the Proposer's financial statement (balance sheet, cash revenues, long-term debt/ retained earnings).

7.3.5 MWBE 10% Participation (Pass/Fail):

- 7.3.5.1 Relevancy and level of participation and to the level of correct submission of the required MWBE dual sign-off Letter of Intent Form.

7.3.6 Hire Houston First (HHF) Preference Points: (N/A, Exempt from this Solicitation.)

7.3.7 Price:

- 7.3.7.1 Reasonableness of Paging System pricing forms contained in Exhibit III, Attachment A.
- 7.3.7.2 Level of details for required cost elements and annual lump sum fee provided for the five-year maintenance and repair plan. (Exhibit III, Attachment-A Fee Schedule.)
- 7.3.7.3 Reasonableness of the submitted lump sum cost for the design/mobilization/installation of the Public Address System at both, IAH and Hobby Airports.
- 7.3.7.4 Reasonableness of hourly labor rates submitted for respective classifications. (Exhibit III, Attachment-A, Fee Schedule.)

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SCOPE OF WORK & PERFORMANCE SPECIFICATIONS
SOLICITATION NO. S10-H25308

1.0 **SPECIFICATION/SCOPE OF WORK**

1.1 **GENERAL OVERVIEW**

1.1.1 The Houston Airport System (HAS), an enterprise department of the City of Houston (COH) is seeking Request for Proposal (RFP) from interested firms to provide professional public address system design, installation, and maintenance services for George Bush Intercontinental Airport (IAH) and William P. Hobby Airport (HOU).

1.1.2 HAS is comprised of three active airports: George Bush Intercontinental Airport/Houston (IAH); William P. Hobby Airport (HOU); and Ellington Airport (EFD). The three-airport system served more than 53.1 million passengers in 2014, including more than 9.8 million international travelers.

1.1.3 HAS provides a safe and dynamic air services network that fosters economic vitality for the transportation industry, and the Greater Houston Area. HAS brings air service to the United States' fourth most populous City.

1.2 **PROJECT OVERVIEW**

1.2.1 The mission-critical nature of the Airport-wide Public Address systems at both George Bush Intercontinental Airport (IAH) and William P. Hobby Airport (HOU) require a high operational uptime, including transitional periods while performing upgrades and/or migrations to the systems. Contractor shall provide a detailed design/implementation/migration strategy with an emphasis on business continuity and end-user training to ensure a smooth transition.

1.2.2 This project encompasses complete design, procurement, implementation, commissioning, and a five-year maintenance plan for the new Public Address System at HOU and IAH. Contractor's proposed system should satisfy requirements outlined in the Public Address System Performance Specification.

1.3 **SCOPE OF WORK**

1.3.1 Contractor shall provide a complete Public Address (PA) System that includes design, installation, and maintenance for IAH and HOU PA Systems. IAH will support all terminals (A, B, C, D and E) and FIS (Federal Inspection Services) facility. HOU design shall support the entire HOU airport terminal, domestic concourse, and the new international concourse and FIS facility.

1.3.2 Contractor's work shall include design and installation components that include network equipment, paging equipment, conduit, cabling and system programming. Design should re-use existing speaker and microphone station installed base wherever possible.

1.3.3 Contractor shall provide the required supervision, labor, materials, tools, equipment, insurance and transportation.

1.3.4 Contractor shall be paid for services provided at each Airport (IAH and HOU).

1.3.5 All services shall be in accordance with the highest standards prevailing in the industry, as well as applicable codes, rules, regulations, laws and practices governing the work.

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- 1.3.6 These standards shall be achieved and maintained by continuous improvement through open communications with HAS, regular management reviews, and industry guidelines.
- 1.3.7 Contractor shall secure all licenses and permits required to perform the services.
- 1.3.8 Work under this Contract shall only be initiated by the Contractor after receiving a written Notice to Proceed (NTP).
- 1.4 EXPERIENCE/QUALIFICATION**
- 1.4.1 Contractor shall have, at a minimum five (5) years of experience providing public address system design, installation, and maintenance services to airports and/or public sector/local government organizations.
- 1.5 PROJECT MANAGER**
- 1.5.1 Project Manager shall have three (3) years of supervisory experience, and managing and monitoring activities. Project Manager shall be responsible for overall management and coordination of this Project.
- 1.6 PROJECT MANAGER / SUBSTITUTIONS**
- 1.6.1 The Contractor shall provide qualified personnel dedicated to managing the requested services. The Contractor shall designate a project manager who has a minimum of five (5) years of experience in Project Management. Once the project manager is approved by the HAS Director in writing, the HAS Director shall not accept any substitutions of the project manager except for substitutions required for reasons outside the control of the Contractor, and upon written approval by the HAS Director.
- 1.6.2 The Contractor shall provide comprehensive project management including:
- 1.6.2.1 Conduct bi-weekly meetings to provide updates and status on the review process, discuss new initiatives, record minutes, and provide next steps.
- 1.6.2.2 Create timelines for the various reviews.
- 1.7 INCREASE OR DECREASE OF WORK – INCLUSION / EXCLUSION**
- 1.7.1 From time to time throughout the Term of this Agreement, the HAS Director may, by written notice to Contractor, increase and/or decrease the Work. The Contractor's sole compensation for such adjustment shall require mutual agreement between the HAS Director and Contractor. The HAS Director's decision is final.
- 1.8 ADDITIONAL RELATED SERVICES**
- 1.8.1 In submitting Proposal, Proposer(s) shall indicate a willingness to negotiate future potential additional services deemed appropriate for the scope of services, as provided herein, or deemed necessary and/or desirable by HAS.

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1.9 ADDITION & DELETION

1.9.1 The City, by written notice from the City Purchasing Agent to the Contractor, at any time during the term of this contract, may add or delete like or similar equipment, supplies, locations and/or services to the list of equipment, supplies, locations, and/or services to be provided. Any such written notice shall take effect on the date stated in the notice from the City. Similar equipment, supplies, services, or locations added to the contract shall be in accordance with the contract specification/scope of services, and the charges or rates for items added shall be the same as specified in the fee schedule. In the event that the additional equipment, supplies, locations and/or services are not identical to the item(s) already under contract, the charges therefore will then be the Contractor's normal and customary charges or rates for the equipment, supplies, locations and/or services classified in the fee schedule.

1.10 SILENCE OF SPECIFICATIONS

1.10.1 The apparent silence of these specifications as to any detail, or apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail, and that only material and workmanship of the finest quality are to be used. All interpretations of these specifications shall be made on the basis of this statement.

1.11 ESTIMATED QUANTITIES NOT GUARANTEED

1.11.1 The estimated quantities specified herein are not a guarantee of actual quantities, as the City does not guarantee any particular quantity of services during the term of this Contract. The quantities may vary depending upon the actual needs of the Department. The quantities specified herein are good faith estimates of usage during the term of this Contract. Therefore, the City shall not be liable for any contractual agreements/obligations the Contractor enters into based on the City purchasing all the quantities specified herein.

1.12 WARRANTY OF SERVICES

1.12.1 *Definitions:* "Acceptance" as used in this clause shall mean the act of an authorized representative of the City by which the City assumes for itself, approval of specific services as partial or complete performance of the contract.

1.12.2 "Correction" as used in this clause shall mean the elimination of a defect.

1.12.3 Notwithstanding inspection and acceptance by the City or any provision concerning the conclusiveness thereof, the Contractor shall warrant that all services performed under this contract shall, at the time of acceptance, be free from defects in workmanship and shall conform to the requirements of this contract. The City shall give written notice of any defect or nonconformance to the Contractor within a one (1) year period from the date of acceptance by the City. This notice shall state either a) that the Contractor shall correct or re-perform any defective or non-conforming services at no additional cost to the City, or b) that the City does not require correction or re-performance.

1.12.4 If the Contractor is required to correct or re-perform, it shall be at no cost to the City. Any services corrected or re-performed by the Contractor shall also be subject to this clause to the same extent as work initially performed. If the Contractor fails or refuses to correct or re-perform, the City shall, by contract or otherwise, correct or

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replace with similar services and shall charge to the Contractor the cost occasioned to the City thereby, or make an equitable adjustment in the contract price.

- 1.12.5 If the City does not require correction or re-performance, the City shall make an equitable adjustment in the contract price.

1.13 LOBBYING AND OTHER FORMS OF INFLUENCE PROHIBITED

- 1.13.1 Neither Proposer nor any person acting on Proposer's behalf shall attempt to influence the outcome of the contract award by the offer, presentation or promise of gratuities, favors, or anything of value to any member of the RFP evaluation committee, any appointed or elected official or employee of the City of Houston, their families or staff members. All inquiries regarding the solicitation are to be directed to the designated City Buyer identified on the first page of the RFP. Upon issuance of the RFP through the pre-award phase and up to the award of a contract, aside from Proposer's formal proposal to the RFP, communications publically made during the official pre-proposal conference, written requests for clarification during the period officially designated for such purpose by the City Buyer and communications during an oral interview, scheduled at the request of and for the benefit of the RFP evaluation committee, if any, neither Proposer nor persons acting on their behalf shall communicate with any member of the RFP evaluation committee, appointed or elected official or employee of the City of Houston, their families or staff through written or oral means in an attempt to persuade or influence the outcome of the contract award or to obtain or deliver information intended to or which could reasonably result in an advantage to any Proposer. However, nothing in this paragraph shall prevent Proposer from making public statements to the City Council body convened for a regularly scheduled session after the RFP evaluation committee has made its official selection and presented same to Council for action.

1.13 INVOICING

- 1.13.1 The City of Houston is a single entity for accounting, billing, and discounting. Any invoices accompanied by detailed supplements and other backup documents are to be submitted to:

- 1.13.2 City of Houston
Attention: Houston Airport System
P. O. Box 60106
Houston, Texas 77205-0106

- 1.13.3 The City of Houston requires timely and accurate accounting and billing information.

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SECTION 275200
ACOUSTICAL STANDARDS FOR INTERIOR PUBLIC
AREAS OF A HOUSTON AIRPORT SYSTEM TERMINAL
(REV. 06-13-2014)

GENERAL SUMMARY

- 1 The architectural acoustics of public areas within a Houston Airport System Terminal directly impact a listener's ability to hear and understand life safety and other informational announcements.
- 2 AV Integrator and Terminal Designers shall follow the Guidelines presented herein to ensure the acoustical environment of the Terminals' public areas will allow all Life Safety and paging and announcements to meet the Houston Airport Systems' Speech Intelligibility, Reverberation Time, and dB-SPL standards.
- 3 The interior public areas of a Houston Airport System Terminal include, but are not limited to, the following areas: ticketing; TSA security checkpoints; concourses; gates; baggage claim areas; tram stations; restrooms; or other non-commercial spaces where the public can gather inside a Terminal.

SECTION INCLUDES:

- 4 The maximum acceptable reverberation time (RT^{60}) within the interior public areas of a Houston Airport System terminal.
- 5 The minimum acceptable STI-PA speech intelligibility standards for an announcement paging system installed within the interior public areas of a Houston Airport System terminal.
- 6 The minimum dB-SPL (A-weighted) required within the interior public areas of a Houston Airport System terminal.
- 7 Testing procedures to measure reverberation time (RT^{60}), STI-PA speech intelligibility, and dB-SPL.
- 8 Procedure for adding acoustical absorption to the interior public areas of a Houston Airport System terminal.

9 **References Standards:**

1. NFPA 72 National Fire Alarm Code (2010 edition) BS 5839-8
2. Code of practice for the design, and installation of voice alarm systems VDE 0828-1
3. Electroacoustic Emergency Systems with application regulation described in standard DIN VDE 0833-4
4. Speech Intelligibility Measurements (2011) IEC 60268-13

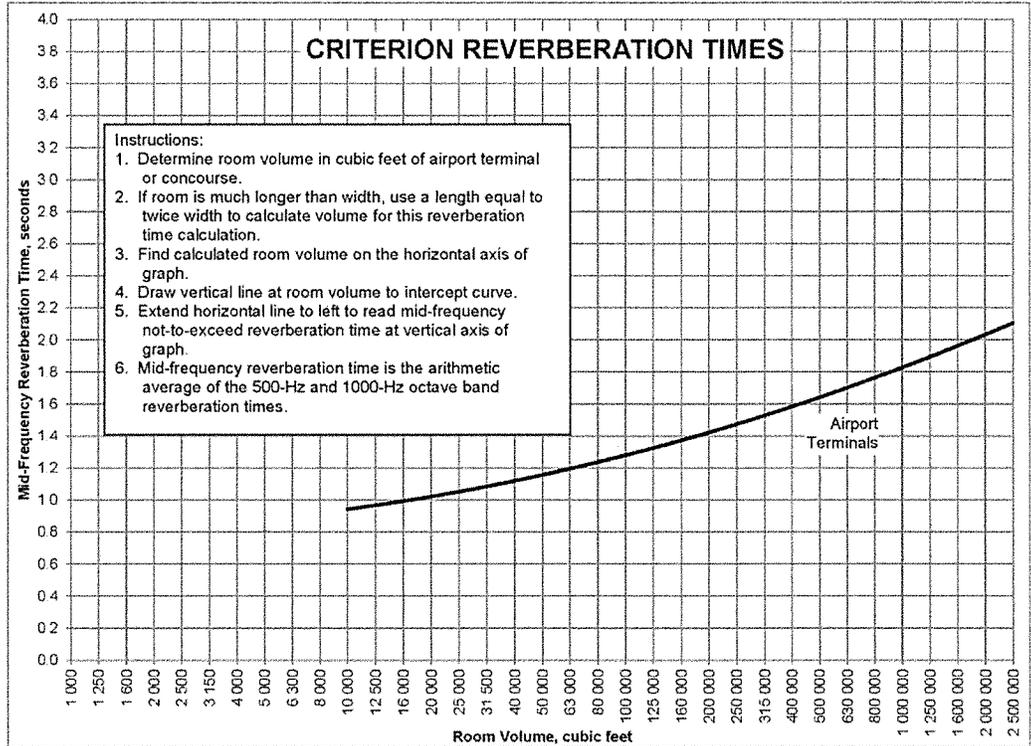
ATTACHMENT 1

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10 Reverberation Time

1. The maximum allowable reverberation time (RT^{60}) for interior public areas in a Houston Airport System terminal is 1.5 seconds. Because the volume of the interior public areas will vary with the areas dimensions of the space, the following criterion and calculations shall be used in to determine the estimated reverberation times.



2. Ambient Noise Correction: In order to properly test the reverberation time (RT^{60}) of an interior public space, all testing should be performed during the hours when the terminal does not have a flight operations schedule. This will eliminate the inaccuracies that occur when the terminal is in normal flight operations.
3. Reverberation Time Test results will be documented and included with the AV Integrator's "As-Built" documentation.

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11 Intelligibility

1. Speech intelligibility in the public places of a Houston Airport System terminal shall have a measurable STI PA Range of .55 or higher, and provide Fair to Good Quality as defined by IEC 60268-16.

Band	STI Range	Quality *	Examples of typical uses
A+	> 0.76	Excellent	recording studios
A	0.72 - 0.76	Good to Excellent	theatres, speech auditoria,
B	0.68 - 0.72	Good	theatres, speech auditoria,
C	0.64 - 0.68	Good	teleconference, theatres
D	0.60 - 0.64	Good	class rooms, concert halls
E	0.56 - 0.60	Fair to Good	concert halls, modern churches
F+	0.55 or Higher	Fair to Good	Paging System in an HAS Terminal
F	0.52 - 0.56	Fair	public offices, cathedrals
G	0.48 - 0.52	Fair	PA in shopping malls, public offices
H	0.44 - 0.48	Poor to Fair	PA in difficult acoustic environments
I	0.40 - 0.44	Poor	PA in very difficult spaces
J	0.36 - 0.40	Poor	not suitable for PA systems
U	< 0.36	Bad	not suitable for PA systems

* Quality of speech intelligibility according to IEC 60268-16

2. Ambient Noise Correction: In order to properly test the speech intelligibility of an Airport Paging System, all testing should be performed during the hours when the terminal does not have a flight operations schedule. This will eliminate the inaccuracies that occur when the terminal is in normal flight operations.
3. Speech Intelligibility Test results shall be documented and included with the AV Integrator's "As-Built" documentation.

12 Estimated Ambient Sound Pressure Levels

1. The Airport Paging System shall be capable of delivering 9dB above the maximum estimated ambient level within a public space of a Houston Airport System terminal. The estimated ambient levels shall be calculated for each space by a qualified acoustical consultant, or a representative selected by the HAS Project Manager.

13 Test Equipment

1. The following are the Class of test equipment required to conduct test for reverberation time (RT^{60}), STIPA Speech intelligibility, and any test involving dB-SPL (A-weighted) measurements:
 - i NTi Audio's XL2
 - ii Larson Davis 821RT
 - iii Larson Davis 824

14 Testing Procedures

1. Reverberation Time Testing shall be performed with HAS representatives present. The Houston Airport System shall determine if the AV Integrator or an objective 3rd party shall perform the Reverberation Time tests and verification. Reverberation testing shall be measured using ISO 3382 test procedure.
2. Speech Intelligibility Testing shall be performed with HAS representatives present. The Houston Airport System shall determine if the AV Integrator or an objective 3rd party shall perform Speech Intelligibility tests and verification. Intelligibility will be measured using IEC 60268-16 test procedure.

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15 Acoustical Treatments

1. The Architect or a qualified acoustical consultant shall define the amount and location of absorption materials required within a public area so that it will allow the Airport Paging System to meet the HAS Standards for Reverberation Time, Speech Intelligibility, and any dB-SPL tests.

END OF SECTION

ATTACHMENT 1
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Houston Airport System
Project 722

Airport Paging System Standards

SECTION 27 51 00

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27 51 00 A - AIRPORT PAGING SYSTEM SUMMARY OF WORK

PART 1 - GENERAL

1.0 RELATED DOCUMENTS

Drawings and General Conditions of Contract, including all Supplementary Conditions, in Section 00 70 00 apply to this Section.

PART 2 - SUMMARY

2.0 OVERVIEW

This section defines the process a qualified AV Integrator shall use to design, upgrade, fabricate, and install an Airport Paging System for the Houston Airport System.

- A. The AV Integrator shall design and install a fully functioning network-based, multi-zone Airport Paging System in accordance with the specifications, standards, and design criteria listed in Section 27 51 00.
- B. The AV Integrator shall provide all labor required to install a fully functioning Airport Paging System in accordance with the specifications, standards, and design criteria listed in Section 27 51 00.
- C. The AV Integrator shall provide all the necessary tools, lifts, ladders, scaffolding, installation instrumentation, computers, and test equipment necessary to fulfill the scope of work specified in Section 27 51 00.
- D. The AV Integrator shall adhere to the installation timeline as defined by the General Contractor and/or the Houston Airport System.
- E. The AV Integrator shall design and install a professional grade Airport Paging System using the approved equipment that meets the minimum performance specifications and design criteria as defined in Section 27 51 00 A 2.2, and 27 51 00 E.
- F. The AV Integrator is responsible for all standard freight, delivery, and transportation necessary to meet the timeline for the scope of work specified in Section 27 51 00.
- G. The Houston Airport System shall be listed as the original purchaser of all equipment installed as part of the Airport Paging System. Upon final acceptance of the completed Airport Paging System, the AV Integrator shall transfer and/or issue the full manufacturer's warranty to the Houston Airport System, and the warranty period shall then begin.
- H. By accepting a contract to design and install an Airport Paging System for the Houston Airport System, the Contractor agrees to deliver to HAS, as part of the "As-Built" documentation, all software programs, and all AV Integrator generated programming created and installed as part of the scope of work in Section 27 51 00. Further, the AV Integrator shall agree that all Airport Paging System programming becomes the property of the Houston Airport System.

- I. The AV Integrator shall provide to Houston Airport System the following deliverables as part of the Airport Paging System design, upgrade, fabrication, and installation process:
 1. Forty-five (45) Days after receipt of a contract, the AV Integrator shall deliver a 100% Schematic Design (SD) package to the Houston Airport System for their review, comment, and approval. The deliverable shall include plan drawings, RCP drawings, typical section drawings showing speaker coverage, and elevation drawings showing the locations of all wall-mounted devices. In addition, the deliverable shall include the completed paging zone layout, preliminary one-line drawings, a preliminary Amplifier Loading & Headroom Matrix, the proposed Spares Inventory, and the data sheets for all proposed paging system equipment.
 2. Thirty (30) Days after the delivery of the 100% SD deliverable, the AV Integrator shall deliver a 50% Construction Document (CD) package to the Houston Airport System for their review, comment, and approval. The deliverable shall include an update to the drawing package delivered previously, updated one-line drawings, an updated Amplifier Loading & Headroom Matrix, and any coordination drawings for millwork.
 3. Thirty (30) Days after the delivery of the 50% CD deliverable, the AV Integrator shall deliver a 95% Construction Document (CD) package to the Houston Airport System for their review, comment, and approval. As this is a 95% CD set, the Airport Paging System deliverable package should be virtually complete. This deliverable will include the final Airport Paging System drawing package, completed one-line drawings, a final 70V Speaker Zone Loading Matrix, and approved coordination drawings for all millwork and/or equipment mounting details.
 4. Fifteen (15) Days after the delivery of the 95% CD deliverable to the Houston Airport System, the AV Integrator shall receive final comments and/or an Authorization to Proceed with the installation phase of the Airport Paging System.
 5. As-Built Deliverable Package: Thirty (30) days after the Houston Airport System accepts the Airport Paging System as being in full compliance with the specifications listed in Section 27 51 00, the AV Integrator shall provide one (1) set of the original owner's manuals, warranty cards, software and equipment documentation in 3-ring binders, and four (4) As-Built Deliverable packages that include the following:
 - a. One full-size and one half-size printed set of all Airport Paging System As-Built Drawings.
 - b. A digital replica of all Airport Paging System As-Built Drawings in PDF and AutoCAD formats.
 - c. One verified and tested backup copy of the Airport Paging System software. The AV Integrator shall demonstrate to the Houston Airport System that the paging system can boot up from the backup copy. The media format shall be determined by the file size.
 - d. A digital replica of a fully executed Amplifier Loading Schedule as shown in Section 27 51 00 C.
 - e. A digital replica of a fully executed Cable Schedule as shown in Section 27 51 00 C
 - f. A digital replica of the owner's manuals, warranty cards, software, and other equipment documentation in PDF format.
 - g. A digital replica of all system software and AV Integrator created programming installed and operating the Airport Paging System.

- J. The AV Integrator shall provide a complete ONE-YEAR PARTS AND LABOR WARRANTY for the work performed as part of Section 27 51 00. The warranty period shall begin on the day the Houston Airport System accepts the Airport Paging System as being in full compliance with the Section 27 51 00 of the project specifications.
- K. During the warranty period the following conditions apply:
1. If on-site service is required during the Warranty Period, the AV Integrator shall provide all necessary parts, labor, travel expenses, transportation, and overnight housing at no charge to the Houston Airport System.
 2. During the Warranty Period, the AV Integrator shall provide service and support during the operational hours of the airport. In the event major repairs need to be made to the Airport Paging System, the service hours would be opposite the airports normal hours of operation.
 3. Service Response Times: The AV Integrator shall provide three classes of service response for Airport Paging System failures that cause some level of operational impact to an HAS airport. The class of the operational impact shall be defined by the Houston Airport System staff, and be based upon their interpretation of the severity of the operational interruption.
 - a. Operational Impact Class 1: A Class 1 impact would involve a non-operational condition over a major portion of the Airport Paging System or the failure of a critical zone that the Paging System serves. For a Class 1 failure, the AV Integrator shall provide a 1-hour online and/or telephone response time and a 4-hour onsite presence.
 - b. Operational Impact Class 2: A Class 2 impact would involve an operational failure within a small area or zone within the Airport Paging System. For a Class 2 failure, the AV Integrator shall provide a 2-hour online and/or telephone response time and a 6-hour onsite presence.
 - c. Operational Impact Class 3: A Class 3 impact would involve the failure of a device that does not affect the operation of a Terminal, Concourse, or Zone. For a Class 3 failure, the AV Integrator shall provide an 8-hour online and/or telephone response time and a 2-day onsite presence.
- J. Paging System Coordination: The AV Integrator is responsible for the following:
1. Electrical Requirements: The AV Integrator shall provide and coordinate all high-voltage electrical requirements for the Airport Paging System with the project MEP. This includes receptacle locations and types, the ampere load requirements per circuit, and BTU's per circuit / per hour / by room. Note: All Uninterruptable Power Supplies are by others.
 2. Junction Box and Conduit Requirements: The AV Integrator shall provide and coordinate junction box and conduit requirements for the Airport Paging System with the project MEP. This includes JB type / size, JB location, conduit size, conduit start point, and conduit end.
 3. Architectural Coordination: The AV Integrator shall coordinate the locations of all flush and surface mounted Paging System equipment with the Architect. This includes all devices located in public areas such as speakers, digital paging stations, and ambient sensing microphones.
 4. Millwork Coordination: The AV Integrator shall coordinate the locations of all Paging System equipment mounted in any custom millwork with the project Architect and/or the millwork contractor.

5. IT Coordination: The AV Integrator shall coordinate all IT requirements for the Paging System with the Houston Airport System IT staff and/or project manager. All IT equipment being provided by the AV Integrator shall meet the latest HAS Design Division Guideline 272100, and entitled Data Communication Network Equipment.
6. General Coordination: The AV Integrator shall coordinate all Paging System work with Houston Airport System, General Contractor, and other trades, as required.
7. Structural Coordination: The AV Integrator shall coordinate the locations of all "suspended" Paging System equipment with the project's Architect and/or Structural Engineer. Prior to their installation, the AV Integrator shall submit the drawings of the proposed mounting and/or rigging design to the structural engineer for review and approval.

2.1 AV INTEGRATOR QUALIFICATIONS

- A. Any AV Integrator wishing to be considered for the scope of work described herein, shall submit their Airport Paging System experience and qualifications as outlined in Section 27 51 00 B.

2.2 Airport Paging System Design Criterion

- A. The design of a new or updated HAS Airport Paging System shall be based upon the following criterion established by the Houston Airport System:
 1. All Airport Paging System network electronics and associated equipment shall utilize OSI Layer-2 and Layer-3 as defined by ISO/IEC 7498-1.
 2. All Airport Paging System control & audio payload shall utilize and adhere to TCP controlled UDP packet IP Protocol.
 3. All Paging System electronics shall use IEEE 1588 time reference, UDP/IP data transport, and floating-point format audio data representation.
 4. All Airport Paging System equipment used as part of a new or existing Paging System upgrade shall operate on open and unmodified standards based protocols.
 5. The network portion of any new or updated Airport Paging System shall have a total latency of 3.5 Milliseconds or less.
 6. The Airport Paging System shall be designed with fully redundant central processors and seamless failover.
 7. All Paging System servers, I/O devices, paging stations, power supplies, 70V amplifiers, and loudspeakers shall be UL Listed.
 8. All Paging System servers, I/O devices, paging stations, power supplies, 70V amplifiers, and loudspeakers shall include a three (3) year parts and labor warranty.
 9. The AV Integrator shall arrange for the 24/7 factory tech support for the Paging System network solution provided.
 10. The existing digital and/or analog microphone paging stations shall interface digitally to the new paging system equipment being provided as part of the AV Integrators Airport Paging System design.
 11. Airport Paging System Backup Testing & Verification shall follow best IT practices.
 12. All electronic equipment installed as part of a new and/or upgraded Airport Paging System shall be backwardly compatible with the existing paging system equipment installed in the facility.

13. Specialty back boxes that are required for surface mounted Digital Paging Stations or Touch-Screens shall be provided by the AV Integrator.
14. The Airport Paging System shall be capable of delivering 9dB SPL (A-weighted) above the maximum estimated ambient level within a public space of a Houston Airport System terminal. The estimated ambient levels shall be calculated for each public space by a qualified acoustical consultant or a representative selected by the HAS Project Manager.

2.3 STANDARDS

- A. A new Houston Airport System Airport Paging System shall be designed and installed in full compliance with Section 27 51 00.
- B. All other Airport Paging System work, including updates, modifications, expansion, interfacing, or repairs, shall be performed in full compliance with Section 27 51 00.
- C. The AV Integrator and Terminal Designers shall follow the HAS Guidelines listed in Section 272100-2 - Acoustical Standards for Interior Public Areas. This will ensure the Airport Paging System design shall meet or exceed HAS Speech Intelligibility, Reverberation Time, and dB-SPL standards required for Emergency Announcements.

2.4 EQUIPMENT

- A. Equipment or software being installed as part of a new or existing Houston Airport System Airport Paging System shall meet the minimum technical, performance, compatibility, and quality standards listed in Section 27 51 00 F.

2.5 TRAINING

- A. The AV Integrator shall conduct a comprehensive Paging System training session on the work performed for and under contract with Houston Airport System. The training shall include:
 1. The operation of the complete Airport Paging System
 2. Operation of all Airport Paging System related equipment
 3. Operation of all DSP, Network devices, audio monitoring, and advanced control systems
 4. Operation of all remote monitoring and diagnostic capabilities
 5. Operation of all redundant and failover capabilities

2.6 ACCEPTANCE TESTING

- A. To ensure the AV Integrator's installation of the Airport Paging System is in full compliance with Section 27 51 00 of the specifications, the Houston Airport System staff and/or their appointed representatives shall conduct a detailed acceptance testing session(s).
- B. In preparation for Acceptance Testing, the AV Integrator shall conduct the following tests and verifications before pronouncing the Airport Paging System as ready for acceptance testing by the Houston Airport System:
 1. All Airport Paging System equipment shall be completely installed and operating in accordance with the manufacturer's specifications.
 2. The Airport Paging System is completely installed and operating in accordance with the specifications and drawings submitted and approved by the Houston Airport System.
 3. All cabling has been tested for proper polarity, terminated in accordance with accepted industry standards, and within tolerance of all cable distance standards.

4. Each loudspeaker installed in an Airport Paging System zone must have been individually tested to ensure it is generating the defined output (+/- 1.5dB SPL A-weighted) at 5' AFF.
5. The ambient sensing microphones installed in each zone are operating properly, and therefore controlling the zone's volume level based upon the ambient conditions present.
6. The HAS Project Manager and/or appointed representatives shall verify the AV Integrator's final system tuning, timing and equalization. The AV Integrator's Project Manager and lead technician shall be present during acceptance testing.
7. Airport Paging System Acceptance: Prior to Final Acceptance, the AV Integrator shall demonstrate to the HAS Project Manager and/or appointed representatives that the Airport Paging System is installed according to the specifications, and in full compliance with the HAS-approved Paging System drawings.
8. Network Failover Testing: The AV Integrator shall perform a manual network failover test in the presence of the Houston Airport System staff. The failover time shall be recorded in the "As-Build" documentation, and used as the system's reference time for future tests.
9. Backup Software Testing: The AV Integrator shall demonstrate to the Houston Airport System staff that the Airport Paging System backup software will restore and reboot the system. This validation is essential to ensure the backup software is 100% operational.

END OF SECTION 27 51 00 A

SECTION 27 51 00 B - AV INTEGRATOR QUALIFICATIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. General Conditions of Contract, including all Supplementary Conditions, in Section 00 70 00 apply to this Section.

PART 2 - SUMMARY

2.1 OVERVIEW

- A. This section describes the experience and qualifications an AV Integrator shall have in order to propose on any HAS Airport Paging System(s).

PART 3 - DESCRIPTION

3.1 AV INTEGRATOR QUALIFICATIONS

- A. This section defines the minimum qualifications for an AV Integrator wishing to propose on an Airport Paging System design or upgrade project for the Houston Airport System.
 1. The AV integrator must document they are either a “Master Certified Dealer” or a factory trained “Level-2” integrator for the Paging System network electronics being used in the design of an HAS Airport Paging System.
 2. Years in Business: The AV Integrator must have a minimum five (5) continuous years in business. Provide a detailed company profile and history including any milestones or successes.
 3. Previous Networked Paging System Experience: The AV Integrator shall submit a detailed list of previous airport, transportation, or networked paging system projects for review by the Houston Airport System. Include the value of the paging system portion of each project (which your contract was with), a key contact at the facility including Name, telephone, and e-mail address.
 4. Staffing: The AV Integrator shall have a fulltime technical, design, and installation staff that is large enough to fulfill the complete scope of work listed on Section 27 51 00 A. Provide the names of all full time employees that shall be responsible for the Airport Paging System.
 5. Manufacturer Trained Staff: The AV Integrator shall provide a list of their fulltime employees who have been trained by the manufacturer of the networked paging system electronics being used in the design of a new and/or upgraded HAS Airport Paging System.
 6. CCNA: The AV Integrator shall have a fulltime Cisco Certified Network Associate on staff during the term of the HAS project.
 7. CCNP: The AV Integrator shall have a fulltime Cisco Certified Network Professional on staff during the term of the HAS project.
 8. Documentation Capabilities: The AV Integrator shall own the following software-based design programs, and maintain a fulltime staff that is proficient in the use of EASE 4.0 or higher, AutoCAD 2012 or higher, and Revit 2012 or higher.

9. Contracting Groups: To ensure the Houston Airport System has “single source responsibility” for a completed Airport Paging System, the primary AV Integrator shall accept complete “system responsibility” for the workmanship of any and all full or part time subcontractors utilized in the installation and calibration of an HAS Airport Paging System.
10. Local Service and Support – The AV Integrator shall either maintain or arrange for local service and support during the warranty period of the Airport Paging System. The local service agency shall adhere to the response times and conditions set forth in Section 27 51 00 A 2.0 I.
11. The AV Integrator’s on-site staff shall meet and adhere to all Houston Airport System safety, training, security, access, insurance, and bonding requirements and regulations.

3.2 CLARIFICATIONS

- A. By providing a proposal for the Airport Paging System scope of work shown in Section 27 51 00, the AV Integrator indicates that they:
 1. Meet all the AV Integrator Qualifications listed in Section 27 51 00 B.
 2. Have reviewed and understand the complete Paging System scope-of-work in 27 51 00.
 3. Have reviewed and understand the Houston Airport System Paging System design criterion listed in the specifications and Request for Proposal (RFP).
 4. Have reviewed all the Airport Paging System support documentation and associated project drawings.

3.3 ADDITIONAL CLAIMS

- A. Additional Claims: Claims by the AV Integrator for additional payment due to errors, omissions, or unfamiliarity with any portion of work specified in Section 27 51 00 will not be considered.

END OF SECTION 27 51 00 B

SECTION 27 51 00 C - AIRPORT PAGING SYSTEM REFERENCE STANDARDS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. General Conditions of Contract, including all Supplementary Conditions, in Section 00 70 00 apply to this Section.

PART 2 – SUMMARY

2.1 OVERVIEW

This section contains a listing of the Governmental, Safety, and Technical standards that are to be followed for all work performed under Section 27 51 00.

PART 3 – DESCRIPTION

3.1 REFERENCE STANDARDS

- A. Government Standards: The AV Integrator shall comply with all government regulations, standards, and laws that apply to the installation and use of Paging System equipment or scope of work specified in this section. The following agencies have laws and rules that must be followed.
 - 1. Federal Communications Commission (FCC): FCC rules are located in Title 47 of the Code of Federal Regulations. FCC rules located in Parts 2, 5, 15, and 17 of the Title. The official rules of the FCC are published, and maintained in the Federal Register. The following is a partial list of the FCC regulations that may apply to Paging System equipment specified in this section of work:
 - a. Part 15: Radio frequency devices.
 - b. Part 22: Public mobile services.
 - c. Part 27: Wireless communications service.
 - d. Part 51: Interconnection.
 - e. Part 74: Experimental radio, special broadcast, and other program distribution services.
 - f. Part 95: Personal radio services.
 - 2. Federal Communications Commission (FCC): The FCC's Table of Frequency Allocations is listed in Section 2.106 of the Commission's Rules. Be aware that as of November 4, 2008, the United States frequency allocation within the "White Spaces" has changed.
 - 3. Occupational Safety and Health Administration (OSHA) – Follow all applicable standards for health and safety with particular attention given to sound pressure level exposure during acceptance testing.
 - 4. ANSI Standards: American National Standards Institute (ANSI) standards are to be followed for this section of work. These standards cover safety, fabrication, assembly, installation, rigging, equipment handling, and acceptance testing.

5. Contributing Organizations – The following Accredited Organizations standards are used to establish the technical references to be followed under this scope of work. The consultant shall provide a synopsis of the listed standards upon request.
 - a. Acoustical Society of America (ASA) (ASC S1)
 - b. Alliance for Telecommunications Industry (ATIS) (ASC T1)
 - c. American Society of Safety Engineers (ASSE) (ASC A1264)
 - d. Audio Engineering Society (AES) (ASC S4)
 - e. Electronics Industry Alliance (EIA) (CEMA)
 - f. Institute of Electrical and Electronics Engineers (IEEE) (ASC C136) (802.1)
 - g. International Cable Engineers Association (ICEA) Formerly IPCEA
 - h. International Standards Organization (ISO)
 - i. National Electrical Manufacturer's Association (NEMA) (ASC C119)
 - j. National Fire Protection Associations (NFPA)
 - k. National Safety Council (NSC) (ASC A10)
 - l. Society of Motion Picture and Television Engineers (SMPTE)
 - m. Telecommunications Industry Association (TIA)
 - n. Underwriters Laboratories (UL) (ASC C101)
 - o. Underwriters Laboratories (UL®) Cable Certification
6. Other Applicable Standards – The following organizations' and government agencies' standards shall be followed concerning technical standards and practices within their respective industry.
7. Safety Standards – AV Integrator shall adhere to the following and other applicable Safety Standards for all work identified in Section 27 51 00 A.
 - a. ANSI A14.2-2000: Safety Requirements for Portable Metal Ladders
 - b. ANSI A14.7-2000: Safety Requirements for Mobile Ladder Stands and Mobile Work Platforms
 - c. ANSI C2-2002: National Electrical Safety Code
 - d. ANSI Z136.2-1997: Safe Use of Optical Fiber
 - e. ANSI Z359.1-1992 (R1999): Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components
 - f. IEEE 142-1991: Grounding of Industrial and Commercial Power Systems
 - g. UL 1419-1995: Standard for Safety for Professional Audio Equipment in accordance with the National Electrical Code, ANSI/NFPA 70
 - h. UL 1651-1997: Standard for Safety for single and multiple Optical Fiber Cable
 - i. ANSI A10.8-2001: Safety Requirements for Scaffolding
 - j. ANSI A10.42-2000: Rigging Qualifications and Responsibilities

8. Applicable Performance Standards – Execute all Airport Paging System work in accordance with the following standards:
 - a. ANSI S4.48-1992 (R1998): Application of Connectors, Part 1, XLR-Type polarity, and gender.
 - b. ANSI S4.55-1997: Recommended Practice for conservation of the Polarity of Audio Signals.
 - c. ANSI T1.217-1991 (R1998): Integrated Services Digital Network (ISDN) Management using OSI Layers:

Description of OSI layers

 - Layer 1: physical layer
 - Layer 2: data link layer
 - Layer 3: network layer
 - Layer 4: transport layer
 - Layer 5: session layer
 - Layer 6: presentation layer
 - Layer 7: application layer
 - d. AES14-1992 (r1998) AES standard for professional audio equipment connectors part 1 XLR type polarity and gender.
 - e. AES24-1-1999, (Revision of AES24-1-1995) AES standard for sound system control - Application protocol for controlling and monitoring audio devices via digital data networks.
 - f. AES26-2001 (Revision of AES26-1995) AES recommended practice for professional audio polarity of audio signals.
 - g. ANSI/TIA/EIA 606-1993: Standard for the Telecommunications Infrastructure of Commercial Buildings.
 - h. ANSI/TIA/EIA 607-1994: Commercial Building Grounding and Bonding Requirements for Telecommunications.
 - i. IEEE 802.1AS: This standard specifies the protocol and procedures used to ensure that the synchronization requirements are met for time sensitive applications, such as audio and video, across Bridged and Virtual Bridged Local Area Networks consisting of LAN media where the transmission delays are fixed and symmetrical.
 - j. IEEE 802.1QAT: This standard specifies protocols, procedures and managed objects, usable by existing higher layer mechanisms, that allow network resources to be reserved for specific traffic streams traversing a bridged local area network. It identifies traffic streams to a level sufficient for bridges to determine the required resources and provides a mechanism for dynamic maintenance of those resources.
 - k. IEEE 802.1QAV: This standard allows bridges to provide guarantees for time-sensitive (i.e. bounded latency and delivery variation), loss-sensitive real-time audio video (AV) data transmission (AV traffic). It specifies per priority ingress metering, priority regeneration, and timing-aware queue draining algorithms. This standard uses the timing derived from IEEE 802.1AS. Virtual Local Area Network (VLAN) tag encoded priority values are allocated, in aggregate, to segregate frames among controlled and non-controlled queues, allowing simultaneous support of both AV traffic and other bridged traffic over and between wired and wireless Local Area Networks (LANs). Bridges are increasingly used to interconnect devices that support audio and video streaming application. Audio and

video streaming and interactive applications over bridged LANs need to be enhanced to have comparable real-time performance of legacy out-of-band analog media distribution. There is significant vendor and end-user interest and market opportunity to consolidate layer 2 solution for both computer networking (e.g. internet access) and audio video services (e.g. home consumer electronics, professional A/V applications, etc.) in mixed wired and wireless environments. The use of such consolidated network shall realize operational and equipment cost benefits. This standard defines a set of enhancements to the Virtual Bridged LAN (802.1Q - "Standards for Local and Metropolitan Area Networks - Virtual Bridged Local Area Networks"). This shall enable end-to-end quality of service guarantee agreement for audio and video streaming negotiated over SRP protocol to be realized in a bridged LAN, while interoperating with existing 802.1D - "Standard for Local and Metropolitan Area Networks: Media Access Control (MAC) Bridges" and Q bridges. Currently, there is no interoperability among bridges that support Audio and Video streaming, nor is there a generally accepted means of achieving such service guarantees in a bridged LAN.

- l. IEEE 802.3 – 2008: A revision of base standard incorporating the 802.3an/ap/aq/as amendments, two corrigenda, and errata. Link aggregation was moved to 802.1AX.
 - m. IEEE 1100-1999: Powering and Grounding Sensitive Electronic Equipment.
 - n. TIA/EIA-568-B: Digital audio over CAT6E cable.
 - o. UL 1047-1999: Isolated Power Systems Equipment
 - p. UL 1581-1998: Reference Standard for Electrical Wires, Cables, and Flexible Cords.
 - q. UL 1682-1998: Standard for Safety for Plugs, Receptacles, and Cable Connectors, of the Pin and Sleeve Type up to 800 Amperes and up to 600 volts ac or dc.
 - r. UL 467-1998: Grounding and Bonding Equipment.
 - s. UL 813-1999: Commercial Audio Equipment and accessories for use in commercial enterprises... this standard was originally listed for public review in the October 13, 1995 issue of "Standards Action."
 - t. UL AZSQ.E194465: Audio/Video Apparatus.
 - u. UL AZJX.E130754: Commercial Audio and Radio Equipment, Systems and Accessories.
 - v. UL NWGQ.E174401: Information Technology Equipment Including Electrical Business Equipment.
 - w. UEAY.S8516: Speakers.
9. Applicable Performance Standards for Fiber Optical Cable – Execute work in accordance with the following standards:
- a. ANSI/TIA/EIA-568-A: Commercial Building Telecommunications Cabling.
 - b. ANSI/TIA/EIA-569-A: Commercial Building Standard for Telecommunications Pathways and Spaces.
 - c. ANSI/TIA/EIA-607: Commercial Building Grounding and Bonding Requirements for Telecommunication.
 - d. ANSI/TIA/EIA TSB-72: Centralized Optical Fiber Cabling Guidelines.

- e. ANSI/TIA/EIA-526-14A: Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant.
 - f. ANSI/IEEE C-2 National Electrical Safety Code on how to install cabling in accordance with the most recent edition of BICSI® publications:
 - g. BICSI Telecommunications Distribution Methods Manual, and
 - h. BICSI Cabling Installation Manual.
- 10 The following is a list of the Houston Airport System guidelines and standards the AV Integrator shall follow as part of their scope of work:
- a. Section 270553: Identification and Labeling of Communication Infrastructure.
 - b. Section 271100: Communication Cabinets and Equipment Rooms.
 - c. Section 271300: Backbone/Riser Media Infrastructure.
 - d. Section 270528: Interior Communication Pathways.
 - e. Section 270543: Exterior Communication Pathways.
 - f. Section 270526: Telecommunications Grounding and Bonding.
 - g. Section 272100: Data Communication Network Equipment.
 - h. Section 275200: Acoustical Standards for Interior Public Areas.

END OF SECTION 27 51 00 C

SECTION 27 51 00 D- AIRPORT PAGING SYSTEM INSTALLATION STANDARDS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General and Supplementary Condition and Division-1 Specification sections, apply to work of this section.

PART 2 – SUMMARY

2.1 OVERVIEW

- A. Provide a complete and fully functional Airport Paging System to the Houston Airport System as described in the specifications.

PART 3 - DESCRIPTION

3.1 Airport Paging System Installation Standards:

- A. Quality of Work: The AV Integrator shall perform all labor and installation in accordance with the standards listed in Section 27 51 00 C Section 27 51 00 D.
- B. Industry Standards: The AV Integrator shall follow accepted IT industry standards, AV industry standards, and all state and local low-voltage codes in order to provide the Houston Airport System a fully functional and properly operating Airport Paging System.
- C. Data Communication Network Equipment: The AV Integrator shall follow the latest revision of the Houston Airport System Data Communication Network Equipment standards contained in the HAS/PDC Design Division Section 272100.
- D. Horizontal Media Infrastructure: The AV Integrator shall follow the latest revision of the Houston Airport System Horizontal Media Infrastructure standards contained in the HAS/PDC Design Division Section 271500.
- E. Interior Communication Pathways: The AV Integrator shall follow the latest revision of the Houston Airport System Interior Communications Pathways standards contained in the HAS/PDC Design Division Section 270528.
- F. Exterior Communication Pathways: The AV Integrator shall follow the latest revision of the Houston Airport System Exterior Communications Pathways standards contained in the HAS/PDC Design Division Section 270543.
- G. Acoustical Standards: The AV Integrator shall follow the latest revision of the Houston Airport System Acoustical Standards for Interior Public Spaces of a Houston Airport System Terminal contained in the HAS/PDC Design Division Section 275200.
- H. HAS Reference Standards: The AV Integrator shall coordinate all infrastructural needs for the Paging System. This includes, but is not limited to, conduit, technical power, and structural elements. Refer to Section 27 51 00 F for clarification.

- I. Cable Identification and Labeling: All Identification and Labeling shall follow the Houston Airport System Specification: 270553 – Identification and Labeling of Communication Infrastructure. Any deviation from the HAS specification must be approved by HAS prior to installation.
- J. Field Conditions: Adjustments of device locations may be requested or required for a variety of reasons. When an Airport Paging System device location change is required because of field conditions, the AV Integrator will notify the HAS Project Manager in writing before any change is implemented.

3.2 CABLE, CABLE TENSION, AND CONNECTORS

- A. Copper Conductors: When the NEC refers to a conductor size, it is in reference to the material of copper (CU). For the purpose of clarification, all conductors being installed as part of an HAS Airport Paging System shall be copper (CU).
- B. Conductor Sizes: Conductor sizing for this project shall follow the NEC and is expressed in American Wire Gauge (AWG).
- C. Electrical Conductor Termination: Dissimilar conductor materials must not make contact in a terminal or splicing device, unless the device is identified for the purpose.
- D. Low-Voltage Terminations: In all instances, terminals, connectors, and terminations shall accept no more than one wire per termination. Where more than one inline termination is required, barrier strips shall be used. They will be mounted to a non-metallic surface and terminations must be identified, either within the equipment instructions or on the terminal itself.
- E. Cable Identification: All cabling being installed, as part of the Airport Paging System must be labeled in accordance with, HAS Standard 27 05 53, and documented in the As-built documentation using the following Cable matrix. In addition, the AV Integrator shall document each cable using the following template.

HAS Cable Schedule

Line #	Cable #	From Device	Connector	Manuf.	Cable		Connector
					Type	To Device	
1	S101	AA1 Ch1	Phoenix	Belden	12/2	S1	Barrier
2	M102	FB1 - Mic 4	XLR	Belden	8412	DAC1 CH22	XLR
3							
4							

Signal Legend

M = Mic
L = Line
S = Speaker
C = Control
V = Video
D = Data

- F. All Airport Paging System cabling shall be installed in either conduit or cable trays in accordance with HAS Standards, 271300, 271500 and 272100.
- G. The use of wire nuts or other similar screw-on or twist-on devices are not permitted in an HAS Airport Paging System. Inline terminations, butting splices, or parallel splices of a speaker cable must be made by using a properly-sized encapsulating and crimped splicing device such as a Molex 19154-0004, or equal.
- H. All CatX cables required from the Airport Paging System equipment rack to Digital Paging Stations or other remotely located I/O devices shall be provided, installed, and terminated by the AV Integrator.

- I. Wire Pull Tension: All Airport Paging System cabling shall be pulled into place by means of an approved wire-pulling machine to ensure all low-voltage cables are not pulled or stretched beyond their respective pulling tension. The following table lists the maximum recommended pulling tension by conductor size.

AWG Gauge	Maximum Pull Tension
24	4 Lbs.
22	7 Lbs.
20	12 Lbs.
18	19 Lbs.
16	30 Lbs.
14	48 Lbs.
12	77 Lbs.

- J. The following is a list of the approved audio connectors for the Airport Paging System:

1. Neutrik
2. Phoenix
3. Wireworks

- K. Network Cable and Connectors: The current list of approved Airport Paging System network cables and connectors is listed in HAS Standard 271300.

- L. Fiber Optic Cabling and Connectors: The current list of approved Airport Paging System fiber optic cabling and connectors is listed in HAS Standard 271300.

3.3 PAGING SYSTEM LOUDSPEAKERS

- A. Loudspeaker Design Intent: The AV Integrator will ensure that the installation of the Paging System loudspeakers located in a Terminal's public space will deliver the minimum intelligibility and dB-SPL performance as defined in HAS Standard 272100-2 Acoustical Standards for Interior Public Areas.
- B. 70V ceiling loudspeaker type S1 shall be used in public areas where the ceiling height above finished floor is between 8'-0" and 15'-0". Note: It is the AV Integrators responsibility to verify the space available above the finished ceiling will accept the preferred HAS loudspeaker. Refer to Section 27 51 00 E for loudspeaker performance specifications.
- C. Self-Powered Loudspeakers S2 and S3 shall be used in public areas where the ceiling height above finished floor is 15'-0" or greater. Since these devices will be surface mounted, all brackets and loudspeakers will be painted using a color specified by the architect. Refer to Section 27 51 00 E for loudspeaker performance specifications.
- D. Special Condition Loudspeakers S4 shall be used in public areas where the "spot" coverage is needed and the ceiling height is between 8'-0" and 15'-0". Refer to Section 27 51 00 E for loudspeaker performance specifications
- E. Special Condition Loudspeaker S5 shall be used in larger public areas where the architecture includes glass walls and high ceilings such as large holding areas or large ticketing lobbies. Since these devices will be surface mounted, all brackets and loudspeakers will be painted using a color specified by the architect. Refer to Section 27 51 00 E for loudspeaker performance specifications.
- F. The following Loudspeaker Type and Location Matrix will apply to all 70V and self-powered loudspeakers installed in an HAS Airport Paging System.

LOUDSPEAKER TYPE AND LOCATION MATRIX		
TYPICAL CEILING CONDITION		
CEILING HEIGHT	CEILING TYPE	Required Loudspeaker Type
8' to 15' A.F.F.	Acoustical Tile Grid	TYPE S1
	Gypsum Board	
Greater than 15' A.F.F.	Acoustical Tile Grid	TYPE S2 OR S3
	Gypsum Board	
	Other (custom)	
SPECIAL CONDITION 1		
A small or confined space where "spot" placement of a loudspeaker is required (exception: Restrooms)		TYPE S4
SPECIAL CONDITION 2		
A large-volume, reverberant space where typical distributed loudspeakers would negatively impact speech intelligibility		TYPE S5

3.4 LOUDSPEAKER AMPLIFIER AND POWER SUPPLY LOADING

- A. 70V Amplifier Loading: When a 70V amplifier is used in the design of an HAS Airport Paging System, the channel loading cannot exceed 75% of a channel's RMS output into 70V. The load is calculated by multiplying the number of loudspeakers on the channel, times the wattage tap used. In addition, the diameter and length of the speaker wire shall be calculated to ensure the minimum Headroom for the channel is 1dB or greater. The following spreadsheet will be delivered to the HAS Project Manager for review and approval as part of the 100% SD deliverable.

Amplifier Loading Percentage & Headroom - Part 1

Amplifier Channel	Dwg	Zone #	Sector	Description	Zone Location	Device ID	Speaker Model	Total Spks on CH	TAP
AA1 200 Watt - CH1	PA-XX	HR 1-1	East	Terminal-X	Gate X	S1	ABC 8"	15	7.5
AA1 200 Watt - CH2	PA-XX	HR 1-2	East	Ticketing	Gate X	S1	ABC 8"	11	7.5

Amplifier Loading Percentage & Headroom - Part 2

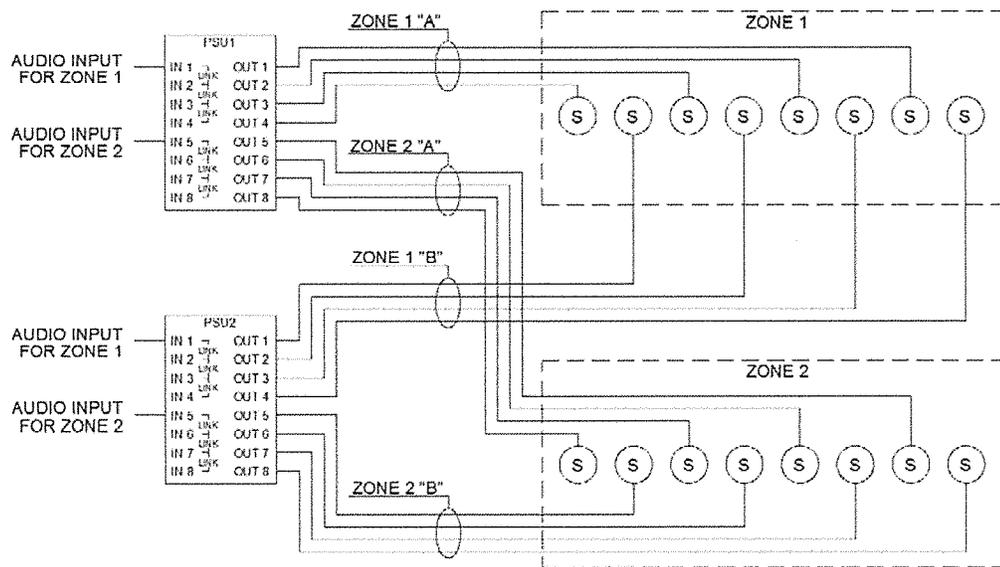
Spk Wattage on Ch	70V RMS Output	CH Load % @ Output	Max CH Load %	Max CH Wattage	Ch Load % +/-	Ch RMS +/-	Headroom @ Output dB	Spk Wire Gauge	Est. Cable for Zone (Ft)	Wire Loss in dB	Net Ch Headroom (1dB Min)
112.5	200	56.3%	75.0%	150.0	18.8%	37.50	2.50	14	660	-0.55	1.95
82.5	200	41.3%	75.0%	150.0	33.8%	67.50	3.85	14	660	-0.55	3.29

- B. 70V Amplifier Auto-changeover: All 70V amplifiers used as part of an HAS Airport Paging System design will be equipped with an auto-changeover device that will shift the load from a failed amplifier to the zone's spare amplifier seamlessly.

3.5 SELF-POWERED LOUDSPEAKER POWER SUPPLY UNIT (PSU) LOADING

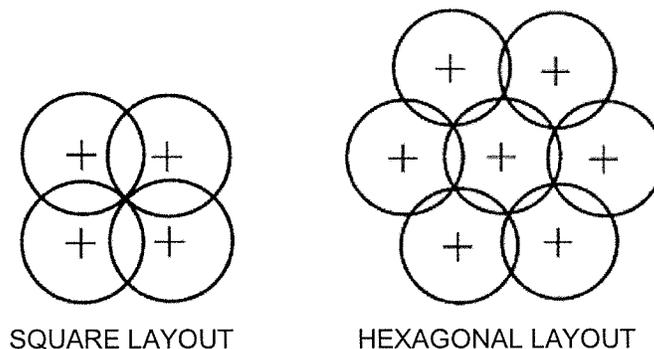
- A. Self-Powered Loudspeaker PSU Loading: The power supplies used to operate self-powered will be configured on a one-to-one basis. Each loudspeaker's multi-cable (Belden 1502) will be home-run from its mounting location to one channel on the PSU. This wiring format will allow the addition of a software-based loudspeaker monitoring system at the time of installation or in the future.
- B. Self-powered Redundant Zone Wiring: Since self-powered loudspeakers have a built-in amplifier, the PSU to loudspeaker wiring shall allow one of the two power supplies attached to a zone to fail, and only 1/2 of the zones' loudspeakers will be affected. The following is the wiring configuration that will be used for all self-power loudspeaker zones.

REDUNDANT DESIGN CONCEPT FOR REMOTELY POWERED LOUDSPEAKERS



3.6 LOUDSPEAKER LAYOUT

- A All ceiling-mounted S1 and S4 loudspeakers used in an HAS Paging System will be designed and installed using a Minimum Overlap (-2dB) design and in the HAS preferred, square layout pattern. The Square layout will produce a coverage pattern with a -2dB variation at the listener's ears. If field conditions dictate, the hexagonal layout may be used but coverage density should be increased in order to maintain -2dB variation. The following figures show the preferred Square and alternate Hexagonal minimum overlap layouts.



3.7 LOUDSPEAKER SPACING

- A. The spacing of all S1, and S4 loudspeakers installed as part of an HAS Airport Paging System will be spaced in accordance with the following chart. The chart addresses the difference between perfect placement vs. the real world that uses 2 X 2 grid ceilings.

Loudspeaker Spacing for Type S1 Ceiling Speakers						
Ceiling Height AFF		Ceiling Height above a 5' Listener		Ideal Center-to-Center Ceiling Speaker Spacing, 80° Coverage		2' x 2' Tile spacing, 80° Coverage
Feet	Meters	Feet	Meters	Feet	Meters	Feet
8	2.44	3	0.91	4.5	1.37	4
9	2.74	4	1.22	6	1.83	6
10	3.05	5	1.52	7.5	2.29	6
11	3.35	6	1.83	9	2.74	8
12	3.66	7	2.13	10.5	3.20	10
13	3.96	8	2.44	12	3.66	12
14	4.27	9	2.74	13.5	4.11	14
15	4.57	10	3.05	15	4.57	16

Note: Dimensions are calculated based on a 5' listening height, an 80° Coverage angle and a square, minimum-overlap pattern. Nominal

Loudspeaker Spacing for Type S2 and S3 Ceiling Speakers							
Ceiling Height AFF		Ceiling Height above Listener		Center-to-Center Speaker Spacing			
Feet	Meters	Feet	Meters	90° Speaker		45° Speaker	
				Feet	Meters	Feet	Meters
16	4.88	11	3.35	16.5	5.03	6.90	2.10
18	5.49	13	3.96	19.9	6.07	8.10	2.47
20	6.10	15	4.57	22.5	6.86	9.33	2.84
22	6.71	17	5.18	25.5	7.77	10.60	3.23
25	7.62	20	6.10	30	9.14	12.40	3.78
30	9.14	25	7.62	37.5	11.43	15.50	4.72

Note: Dimensions are calculated based on a 5' listening height and a square, minimum-overlap pattern.

3.7 SITE CONDITIONS

- B. Work Space: An open and a safe working space is required for all equipment racks, primary system junction boxes, electrical disconnects, panelboard, and other devices. The area necessary to install a safe working space is influenced by the need to examine, adjust, service, or maintain the system while it is in operation. The AV Integrator will verify field conditions do not adversely affect the Airport Paging System Systems open workspace.
- C. Protection: The Contractor shall protect and guard the system equipment during assembly and installation in order to prevent physical damage. System equipment and/or devices should not be installed where they would be exposed to either physical or airborne contamination damage. See the NEC Sections 240-24(c) and 300-4 for clarification and requirements.

PART 3 EXECUTION (NOT APPLICABLE), SEE SECTION 27 51 00 D.

END OF SECTION 27 51 00 D

SECTION 27 51 00 E - AIRPORT PAGING SYSTEM EQUIPMENT STANDARDS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Conditions of Contract, including all Supplementary Conditions, in Section 00 70 00 apply to this Section.

PART 2 – SUMMARY

2.1 OVERVIEW

- A. This section describes the equipment, devices, and the minimum acceptable performance the AV Integrator will use in their design of a Houston Airport System Paging System. It is the AV integrator's responsibility to properly size and configure each Paging System device to ensure that all HAS standards for functionality, dB-SPL performance, and Intelligibility are achieved.
- B. All work shall be performed in accordance with Section 27 51 00.

PART 3 – DESCRIPTION

3.1 EQUIPMENT

- A. Product: The performance specifications for the Airport Paging System equipment listed in this section establish the minimum acceptable performance standards that may be used in an HAS Airport Paging System. As these are the minimum performance standards, the Houston Airport System expects a Paging System design to meet and/or exceed the HAS Design Criteria listed in Section 27 51 00 A.
- B. Substitution: To request substitution, the AV Integrator must submit the request in writing as called for under Section 27 51 00 C. The AV Integrator should submit his justification for the proposed substitution to the Houston Airport System along with a copy of the product's data sheet. Product substitutions require the Contractor to provide a sample of the proposed equipment to the Houston Airport System for equivalency testing. The HAS Staff will make the final decision concerning any proposed equipment substitution.

3.2 DISCONTINUED PRODUCTS

- A. Discontinued Products: All equipment listed in Section 27 51 00 E shall be new, the most recent factory version, and include all firmware and software upgrades available at the time of installation. In the event a product is discontinued, the replacement model shall be from the same manufacturer and include the necessary feature set to ensure the same performance and functionality the original unit is provided.

3.3 AIRPORT PAGING SYSTEM EQUIPMENT

- A. Section 27 51 00 E contains a listing of the HAS approved equipment types and devices that may be used in the design and installation of a functioning Airport Paging System.

3.4 AIRPORT PAGING SYSTEM EQUIPMENT OVERVIEW

- A. All Airport Paging Systems currently installed in a Houston Airport System facility are networked based. Each Airport Paging System utilizes a number of networked components, paging stations, amplifiers, and speakers to form a properly configured and fully functioning Airport Paging System. A new or upgraded HAS Airport Paging System shall adhere to the following:
1. The Paging System's Central Processor configuration will be based upon the number of gates, paging stations, system functionality, and future capabilities required by the Houston Airport System.
 2. The Paging System's Central Processors will be configured to be fully redundant and with seamless auto failover.
 3. The Houston Airport System shall approve all network switches and paging system computers that will be provided and installed by the AV Integrator as part of the Paging System installation.
 4. Some quantity of Paging System network I/O (input/output) devices may be required to distribute to and interface with system electronics located in a central location, or in remotely located equipment rooms.
 5. All digital paging stations used as part of an HAS Paging System design are to be power over Ethernet (PoE) devices.
 6. There will be a minimum of two (2) properly located ambient sensing microphones installed within in each paging zone.
 7. Some quantity of properly sized and loaded Audio Power Amplifiers with network connectivity and auto-changeover circuitry are required for all 70V speaker zones.
 8. Self-Powered loudspeakers and their power supplies will be configured using the wiring configuration detailed in Section 27 51 00 D 3.4.
 9. Each Paging System zone shall be designed using a number of loudspeakers that are configured in a minimum overlap square pattern and delivering a variance of no more than -2dB (A-weighted) variation at the listener's ears.
 10. During schematic design (SD), the AV Integrator will provide the paging zone design to the Houston Airport System for their review and approval.
 11. The Airport Paging System will have the capability to deliver paging and announcements at a minimum of minimum of 9dB above the ambient level in each zone.

3.5 APPROVED AIRPORT PAGING SYSTEM EQUIPMENT TYPES

- A. CENTRAL PROCESSOR (CP1): The following specifications define the minimum specifications and feature set required to achieve the Paging System performance and functionality required by the Houston Airport System.
1. The Paging System Central Processor shall be a single-chassis processor that shall be UL listed under NWGQ.E174401. It shall operate on a native gigabit Ethernet network, employ DiffServ quality of service, IEEE 1588 time reference, UDP/IP data transport, and floating point format audio data representation. The Airport Paging System Central Processor design shall be redundant and synchronized to the primary for both audio and control settings. In addition, the Central Processor will accomplish automatic failover in approximately ten (10) seconds, and manual failover in approximately three seconds. Each processor and I/O Device shall have redundant network connections for seamless auto failover.

The Airport Paging System Central Processor shall have the following minimum capabilities:

- Local Audio Channels: 64x64
- Network Audio Streams: 256x256 single channel streams
- Network Audio Channels In: 512
- Network Audio Channels Out: 512

The Airport Paging System processor shall be capable of incorporating integrated test and measurement components including at minimum: pink noise, real time analyzer, signal injector, signal probe, sine wave generator, and white noise.

2. At minimum, the Airport Paging System processor shall have the following front panel controls and indicators: Power-On LED, Device Status tri-color LED, 400 x 240 TFT color display displaying the name, design name and status, LAN A and B settings, and the firmware version.

The Central Processor's rear panel shall have the following: RS232 DE-9 male connector, Video Out: DE-15 female 15-pin high-density connector, Aux ports: AUX A: USB host x2, RJ45 10/100/1000 MBps, AUX B: USB host x2, RJ45 10/100/1000 MBps, GPIO A: DA-15 female connector, GPIO B: DA-15 female connector, System Network: LAN A RJ45 1000 MBps only, LAN B: RJ45 1000 MBps only.

3. The overall system latency from analog input to synchronized analog outputs shall be 2.5 ms or less. For routed networks, the end-to-end system latency shall be 3.5 ms or less.
4. Each of the Airport Paging System's Central Processors shall store the complete HAS Houston Airport System Paging System design. Redundant processors will allow the other Central Processors in the paging system to provide auto failover and manual failure backup. Each component within the design can have a unique control panel with various controls such as gain, meter, time, and so on. Each control has either an input and output, or output-only control pin that can be used for control or monitoring purposes. Most controls can be represented by a value, text, or positional input/output.
5. At minimum, the Central Processors DSP functions, test and measurement components, control components, and layout components shall include:
 - All-pass filters will support up to 256 input and output channels and first and second order filtering.
 - Audio Import into the system software shall be via drag and drop. The Audio File Player shall accept MP3 and WAV file formats. Media will be stored on a small Media Drive (130 Hours) with up to 128 channels of Multi-track playback
 - Automatic Gain Control (AGC): Supporting 1 to 256 input and output channels, side-chain control, and fixed and adjustable detector times.
 - Band-Pass Filter: Supporting 1 to 256 input and output channels.
 - The audio compressor shall support up to 256 input and output channels, side-chain control, and fixed and adjustable detector times.
 - Control Function: Supporting 1 to 512 control inputs, and one control output. The Control Function component has the minimum functions: Logic AND, NAND, NOR, NOT, NOT XOR, OR, XOR; Position Average, Difference, Equal, Greater, Invert, Less, Maximum, Minimum, Product, Sum; and Value Absolute Value, Average, Difference, Equal, Greater, Less, Maximum, Minimum, Negate, Product, Quotient, Square, Square Root, Sum.

- Control Script: Zero to 512 control inputs and outputs, with editor for writing control scripts using the software Language.
- Crossover: Supporting 1 to 256 inputs, with 6 bands per channel output, using Linkwitz- Riley, Butterworth, Bessel-Thompson (-3 dB Flat Group Delay, -3 dB Mirror Magnitude, Natural Mirror Magnitude, or Natural Phase Match normalization), or Chebyshev slopes, and 6dB/octave to 48dB/octave slope choices in 6dB steps.
- Custom Controls: Supporting up to 10 control groups, with 1 to 512 controls in each group. The types of controls supported are: Frequency knob, Generic float knob, Generic integer knob, LED, Level fader, Level knob, Meter, Momentary button, Mute button, Pan knob, Percent knob, Position knob, Text display, Text edit, Time knob, Toggle button, and Trigger button.
- Delay: Supporting 1 to 256 input and output channels, with 1 to 32 taps per channel, with zero to 100ms of delay individually adjustable per channel.
- The Dual-Shelf Equalizer will support up to 256 input and output channels with six and 12db per octave filter slopes.
- Envelope Generator: Control component that creates a series of 4 timed control level outputs, causing the control to which it is connected to go from point A to B, C then D at the prescribed times.
- Expander: Supporting 1 to 256 input and output channels, side-chain control, and fixed and adjustable detector times.
- Gain: Supporting 1 to 256 input and output channels, and gain capability of -100 to 20 dB.
- Gain Sharing Automatic Mixer: Supporting 2 to 512 input and output channels, side- chain control, and fixed or adjustable detector times.
- Gate: Supporting 1 to 256 input and output channels, side-chain control, and fixed and adjustable detector times.
- Gated Ambient Compensator: Program and ambient input with single output. Controls program volume with respect to ambient noise.
- Gated Automatic Mixer: Supporting 2 to 512 input and output, side-chain control, and fixed or adjustable detector times.
- Graphic Equalizer: Supporting 1 to 256 input and output channels, with five band selections between six 2-octave bands and sixty-one 1/6th octave bands.
- High-Pass Filter: Supporting 1 to 256 input and output channels using Linkwitz-Riley, Butterworth, Bessel-Thompson, Chebyshev or Variable Q slopes and 6dB/octave to 48dB/octave slope choices in 6dB steps.
- High-Shelf Equalizer: Supporting 1 to 256 input and output channels, with six and 12dB/octave slopes.
- Level Ramp: Supporting one channel in, and one channel out, with the capability of ramping an input signal from one adjustable level to another adjustable level in a set time, and back in a different set time.
- Low Frequency Oscillator (LFO): Control component capable of modulating a control frequency output using a square, sine, triangle, rising sawtooth, falling sawtooth, pulse train, or pulse width modulation. Capable of free running, or one-shot/sync.

- Low-Pass Filter: Supporting 1 to 256 input and output channels using Linkwitz-Riley, Butterworth, Bessel-Thompson, Chebyshev or Variable Q slopes and 6dB/octave to 48dB/octave slope choices in 6dB steps.
- Low-Shelf Equalizer: Supporting 1 to 256 input and output channels, with six and 12dB/octave slopes.
- Meter: Supporting 1 to 256 inputs, with adjustable RMS response time, max hold time, and peak decay time, and the ability to hold the max reading infinitely.
- Matrix Mixer: Supporting 1 to 512 mono channels, or 256 stereo channels, or a combination of both not to exceed 512 total channels, input and output, controllable input and output control banks, zero to 8 VGA control groups, with a matrix panner for mono, pan per input or crosspoint, or none for stereo.
- Notch Filter: Supporting 1 to 256 input and output channels
- Page Router: Supporting 1 to 256 page stations and 1 to 512 paging zones with individual control for each station.
- Page Station: Supporting 1 to 10 assignable page buttons and 20 priority levels.
- Page Zone Select: Supporting 1 to 512 zones, selectable individually or all at once.
- Parametric Equalizer: Supporting 1 to 256 input and output channels, and 1 to 32 bands, each band having individual bandwidth and frequency control.
- Peak Limiter: Supporting 1 to 256 input and output channels, side-chain control, and fixed and adjustable detector times.
- Pink Noise Generator: Single output of pink noise with RMS level control and mute button.
- Priority Ducker: Supporting 1 to 512 input and output channels, one priority channel, and fixed and adjustable detector times.
- Response analyzer: Supporting one measurement input, one reference input, and choices of Mag, Mag/Phase, Impulse, and RTA displays.
- Router: Supporting 1 to 512 inputs and outputs per channel, with 2 to 256 channels.
- RTA: Single input with bandwidth choices of one, 1/3, 1/6, 1/12, and 1/24th octaves.
- Signal Injector: Single input, with injector tool, mute and gain controls.
- Signal Presence: Supporting 1 to 256 inputs.
- Signal Probe: Single output, with probe tool, mute and gain controls.
- Sine Generator: Supporting 1 to 256 outputs, frequency from 10 to 20 kHz, and output gain control from -100 to 20 dB.
- Subtractive Ambient Compensator: Program, ambient, and speaker input with single output. Controls program volume with respect to ambient noise.
- White Noise Generator: Single output with gain control from -100 to 20 dB.
- WAN Stream Receiver: Supporting 1 to 16 channels with multi-cast capabilities.
- WAN Stream Transmitter: Supporting 1 to 16 channels with multi-cast capabilities and bit rates from 32kbits/sec to 320kbits/sec in 16kbit increments.

6. The Airport Paging System Central Processor software shall support User Control Interfaces containing controls, indicators and graphics, deployed by a 1-gigabit Ethernet network, on, at minimum on Touch Screen Controllers. A User Control Interface shall be capable of having multiple user-selectable pages, as with HAS defined controls and functionality.
7. The Paging Systems Central Processor software shall employ a signal linking feature with one transmitter and multiple receivers capable of 1 to 100 channels. The signal-linking feature shall be able to carry digital audio, control signals, and proxies of physical wiring. Signal linking can connect components on multiple Schematic Pages.

All HAS Paging System Central Processor software shall be able to create both global (all control settings in a design) and user-defined Snapshots (selected control settings) with up to 24 Snapshots in each Snapshot Bank. Snapshots shall have the option of configurable-time auto saves. User-defined Snapshots shall have three modes: Write Protect, Normal, and Scene shall have the option of Auto Load.

An HAS system Central Processor software shall have the capability of exposing user-selected controls and openly published external system for control and monitoring. The connection shall either be a TCP/IP connection using an external control protocol, or connect using a communications library. HTML 5.0 shall be available in a future release of the Central Processors firmware.

The HAS Paging System Central Processor software shall have the option of invoking security for individual users and user groups. Each user shall have a Name and PIN for accessing various aspects of a design. A user can be a member of one or more groups. The Airport Paging System processor shall have the capability of invoking security on the processor/controller itself, restricting the capability of changing the password or network settings, updating firmware, deploying a design, and clearing the log. The number of allowable paging groups shall be unlimited.

The Airport Paging System Central Processor software shall have a home page accessible with an IOS Application, UCI viewer, and/or a web browser. The home page, or Web Control Interface (WCI) shall contain status information including type of device, hostname, firmware version, currently running design, design status, design up time, device redundancy, fault status, and if the device is password protected. The network interfaces (LAN A and LAN B) status shall include IP Address, Net Mask, Broadcast Address, MAC Address, and Packets In and out per second, Bytes in and out per second, receive and transmit errors, and receive and transmit drops. The I/O card type installed in the device shall be displayed. Any User Control Interface designs shall be listed with a link to the interface. The device log and raw status shall be available for viewing.

8. The Web Controlled Interface (WCI) shall have the following security for access to the CP1: username, password and repeat password, and capability of changing the password. The WCI shall have the capability of setting the following network parameters for LAN A, B, Aux A, and Aux B--Enabled/disabled, for both automatic and static selections; IP Address (destination), Mask, Default Gateway (Gateway), for the DNS server--primary and secondary. You shall be able to save the settings, clear the edits, and view the raw settings. The WCI shall provide the capability of setting the device date and time, or synchronizing to an NTP server identified with an IP address. The WCI shall be able to schedule events. The events shall have a name, an associated snapshot, start time, and date; if the event is periodic, it shall have an end time and date, and an interval period. The event shall be able to have a recurrence of none, daily, weekly, and monthly. The status of all networked devices is monitored in the processors software and when a status change occurs, an e-mail notification is sent to HAS staff for review.

9. TEXT TO SPEECH OPTION (TTS1): The TTS1 is a multi-language, TTS announcement server that will interface directly with the CP1 Central Processor and generate passenger announcements. Playback of announcements can be initiated manually, from a GUI on a TSC1 touchscreen, from an approved wireless device, or from keystrokes on button style paging stations. The announcement process can be semi-automatic or fully automated and an HAS approved five language library will be included with each head-ends server. The TTS1 will deliver announcements that are undistinguishable from live human speech. The interface with the CP1 Central Processor will be by TCP/IP, and in based on HTML5. The TTS1 will provide an interface for visual paging and passengers name announcements (address calls), integration with the existing airport paging system, public address system, and a modular architecture. In addition, the TTS1 shall have:

- Text-to-speech (TTS) for generation of HAS defined content and personal paging
- Multi-language voice libraries for announcements
- Customization of audio libraries for HAS defined content
- Manual pre-recording for generation of HAS defined content
- Support for emergency calls and fire alarm
- Visual paging that is capable of integrating with the existing HAS FIDS system
- Low power consumption with Simpleway hardware and software

B. INPUT / OUTPUT FRAME IOF1: The following is the networked Input/Output frame (IOF1) that shall operate of the HAS gigabit Ethernet network, employing DiffServ quality of service, IEEE 1588 audio clock synchronization, UDP/IP data transport, and floating-point format audio data representation. The overall system latency from analog input to synchronized analog output(s) shall be 2.5 ms or less. For routed networks, the end-to-end system latency shall be 3.5 ms or less. The IOF1 shall be used in a redundant design configuration in keeping with the HAS Design Criteria and have the same input source as the primary. The IOF1 outputs of the backup are disconnected by relays, until a failover occurs, at which time the primary outputs are disconnected. Each IOF1 shall have redundant "hot" network connections for seamless audio stream failover. The IOF1 capacity shall be up to 16 analog input and/or output channels using any combination of the following: Mic/Line Input card (High Performance or Standard) Line Output card, and DataPort Output card. The IOF1 dimensions shall be: (HWD) 1.75" x 19" x 15" (44.45 mm x 482.6 mm x 381 mm). The I/O capacity shall be up to 32 digital channels using the AES-3 Input/Output card. The IOF1 shall have the following front panel controls and indicators:

- LCD page forward momentary switch
- Unit ID momentary switch, clear settings momentary switch
- Power on - blue LED
- Device status - tri-color LED
- Audio signal - five tri-color LEDs per I/O card slot
- 240 x 64 pixel monochrome LCD graphics display

The IOF1 shall have the following rear panel connectors:

- RS232 - DE-9 (male 9-pin D shell connector)
- GPIO - DA-15 (female 15-pin D shell connector)
- Network Connection LAN A and LAN B - RJ45 1000 MBps only

- line voltage connection for 100 VAC - 240 VAC, 47 - 63 Hz

C. DIGITAL PAGING STATION (DPS1): The following specifications define the minimum requirements and feature set that will be accepted for an HAS Airport Paging System digital paging station. The DPS1 shall feature the following:

- Capacitive touch and numeric keypad
- Programmable keypad with 16 buttons
- A monochrome LCD graphics display
- Second microphone input
- A GPIO (to allow one Page Station to serve two locations)
- Dual ethernet connections (supports network redundancy)
- Compatibility with "Power over Ethernet" (PoE) or local power supply
- A handheld or gooseneck PTT (Push to Talk) microphone
- Flush or counter top mounting with the addition of a back box

The Digital Paging Station shall operate on the HAS gigabit Ethernet network, employing DiffServ quality of service, IEEE 1588 audio clock synchronization, UDP/IP data transport, and floating-point format audio data representation. The overall system latency from analog input to synchronized analog output(s) shall be 2.5 ms or less. For routed networks, the end-to-end system latency shall be 3.5 ms or less.

The audio I/O capacity of the DPS shall be one microphone and one auxiliary input and one auxiliary line out. The Page Station shall also support up to four GPIO connections.

The DPS shall have at minimum LED indicators for Busy, Ready, Record, keypad activity, Zone Busy, Zone Ready, TALK/START indicator. The Wall-mount and Gooseneck models shall have eight capacitive touch buttons.

The hand-held microphone shall have a stainless steel plate for mounting the microphone when not in use. The gooseneck models shall have a fixed gooseneck microphone. All models shall provide microphone verification ensuring that the microphone is present and capable of being used. The DPS shall have the following rear panel connectors:

- Network LAN A and LAN B - RJ45 1000 MBps only
- PoE connection
- GPIO - 6 pin Euro connector
- DC Power +24V inlet - 2 pin Euro connector
- Aux Line input - 3-pin Euro connector, Aux Line output - 3-pin Euro connector

D. SERIAL BRIDGE INTERFACE SBI1: A Serial Bridge Interface (SBI1) will be used to interface a new Airport Paging System with an existing HAS networked paging system. The SBI1 will allow a new Central Processor to be installed into sites with a legacy paging system. With multiple simulation modes, the SBI1 can connect in many different ways, allowing the new paging equipment to seamlessly connect and cooperate with the existing legacy systems. If more than eight connections are required, multiple SBI1's will be required. An N-Port 5610-16 is required to interface up to 16 units installed in the original HAS networked system. The SBI1 utilizes the same cable type as the legacy paging stations require. The SBI1 is designed to be located in the rack room with the legacy head-end server and/or the I/O Frames. The SBI1 shall feature, at minimum: Eight 3-Pin Phoenix connectors for connecting legacy paging devices, supply 30V and

control, Eight RJ-45 connectors for RS-232 connectivity, 30V Power selectable per port for interconnection to legacy paging servers, and rack-mountable.

- E. 70V AUDIO POWER AMPLIFIER APA1: The following APA1 represents the minimum performance specifications for a 4-channel 70V amplifier. The APA1 shall have internal heat sinks cooled by forced air, driven by a 24-volt DC variable speed fans that respond to heat sink temperatures to minimize acoustic noise. The APA1 shall contain four independent 70V amplifier channels powered by a low-impedance switching power supply. All APA1 protection systems shall be synchronized and self-resetting upon removal of fault. Each channel shall have circuitry to protect against short circuits or mismatched loads. Each channel shall independently monitor heat sink temperature and shall trigger fan speed boost, and if necessary, signal muting to prevent excessive temperature rise. All channels shall have synchronized on-off muting, acting for three seconds after turn-on and within ¼ second after turn-off or loss of AC power. Each channel shall have DC fault protection for the load, consisting of a shutdown of the power supply. Each channel shall have an independent and defeatable clip limiter and a 12 dB per octave high- pass filter. The corner frequency of the filter shall be selectable between 50 Hz and 75 Hz.

Each APA1 channel shall be capable of driving directly a 70-volt line at rated power, without requiring an output transformer. Each channel shall deliver the following performance: Sine wave output power of 200 watts, 20 Hz to 20 kHz at <0.05% THD, with both channels driven at 70 volts; and 220 watts, 1 kHz at <0.1% THD with one channel driven at 70 Volts. Frequency response at 3 dB below rated power shall be 20 Hz to 20 kHz \pm 0.2 dB. Depth from mounting surface to tips of rear supports shall be 14 in. (35.6 cm). The amplifier's weight shall not exceed 21.0 lb. (9.5 kg).

- F. 70V AMPLIFIER AUTO-CHANGEOVER AAC1: The following Amplifier Auto-Changeover AAC1 is integral to achieving a redundant design for the 70V portions of an HAS networked Airport Paging System. The Auto-changeover device will be networkable to allow the HAS Staff to remotely monitor the status of all 70V zones, amplifiers, and loudspeakers. One AAC1 will support four 2-channel primary amplifiers with one 2-channel backup amplifier, or two 4-channel primary amplifiers with one 4-channel backup amplifier. The primary amplifiers are continuously monitored by the Central Processor along with the power-on status of all backup amplifiers. Periodic full tests of the backup system can be programmed to ensure signal integrity and meet regulatory requirements. An external microphone preamp is required to connect a low-impedance paging microphone. Using these analog inputs, each AAC1 has two priority modes, Alarm and Page. The Alarm input overrides all other signals and is used for major emergencies. The Page input overrides all signals except the Alarm input and can be used for other announcements. These inputs can be assigned to any combination of amplifier channels, and can be activated with either a standard contact closure or +12VDC trigger voltage from the fire alarm panel. The AAC1 is easily integrated into a networked paging system and when mounted onto the rear of a rack, the AAC1 minimizes rack space consumption. AC line connection is by an IEC style quick- disconnect and locking bracket. The power supply operates on 100-240VAC, 50/60Hz. By using standard HD-15 connectors and high current detachable terminal blocks, the AAC1 provides an easy to install connector set. Various LED indicators alert the user to current panel status. The LEDs include an AC power indicators, status indicators, and failure indicators. Each AAC1 connects up to eight 70V loudspeaker circuits.

- G. TOUCH SCREEN CONTROLLER TSC1: The following are the minimum performance specifications for a touch screen controller that can be used as part of a HAS Airport Paging System. The TSC1 shall have a 3.5-inch (diagonal) color LCD screen with a resolution of 320 horizontal by 240 vertical. The controller shall support control by both GPIO and TCP/IP protocols and shall display HAS Approved control interfaces. The TSC1 shall flush-mount in a wall or ticket counter using a standard U.S. 2-gang back box. The TSC1 shall measure 4.5 in high X 4.85 in wide X 1.35 in deep. The controller shall have a net weight of 3 lbs.

- H. NETWORK SWITCH NS1: The AV Integrator shall provide and install all network switches required by the Airport Paging System. Refer to HAS Guidelines for the latest model and configuration to be used.
- I. NETWORK PC PC1: The AV Integrator shall provide and install a rack mounted PC with keyboard tray with a flip-up 17" LCD Display for each HAS Paging System Head-end. This PC will be used to configure to configure various devices and to operate any necessary software required by the Airport Paging System. Refer to HAS Guidelines for the latest models and configuration to be used.
- J. REAL-TIME MONITOR SERVER RMS1: The real-time monitoring server (RMS1) is a compact hardware unit that monitors self-powered loudspeakers over the Ethernet. Situated between the computer running RMS software and the loudspeaker cabinets, the RMS1's two FT-10 ports can be connected to up to 50 individual self-powered loudspeakers or up to 12 PSU1 power supplies. Since each PSU1 can power eight loudspeakers, one RMS1 can monitor up to 96 self-powered loudspeakers. The RMS1 stores system configurations internally, eliminating most manual data entry. A system can be monitored from the HAS approved PC in the equipment rack or via a tablet computer by the web. The RMS1 features email notifications of any issues with your paging system:
- Real-time monitoring of each self-powered loudspeakers amplifiers, drivers, limiting, cooling, and fault alerts
- Mute and solo individual loudspeakers or groups of loudspeakers by Compass software
 - Wink and ID controls from RMS software easily locate any loudspeaker in the entire system
 - RMS1 stores system configurations internally, eliminating most manual data entry
 - E-mail notifications even when Compass is not connected
- K. LOUDSPEAKERS: The following are the performance specifications for the loudspeaker types that may be used as part of an HAS Airport Paging System design, upgrade, or installation:

1. SPEAKER TYPE S1: The following performance specifications are for the approved 70V speaker for an HAS Airport Paging System. The speaker Input connection shall be a removable locking connector that provides a secure connection via screw-down terminals. Separate connector terminals shall be available for the input and for the loop through wires. The input terminal plate shall provide strain relief for bare wire, plenum cable or ½-inch conduit. The terminal box shall meet applicable safety codes. The speaker trim and grille shall be paintable to match the color specified by the architect. A paint shield shall be provided for covering the drivers while painting the rim. The S1 speaker shall come complete with the backcan, grille, and support backing bracket and tile rails. The S1 speaker must be installable and removable without requiring access above the ceiling. An optional steel 2 X 2 mounting T-bar shall be available as an accessory while a cutout template shall be included. Tile bridge rails are included and can be screwed onto the C-plate to extend support to the T-channel grid in suspended ceiling installations.
 - Frequency Range: (-10 dB)1: 75 Hz - 20 kHz
 - Power Capacity2: 150 Watts Continuous Program / 75 Watts Continuous Pink
 - Nominal Sensitivity: 89 dB SPL, 1W @ 1 m
 - Nominal Coverage Angle: 110° conical coverage
 - Directivity Factor (Q): 5.9 averaged 500 Hz to 4 kHz
 - Rated Maximum SPL: 107 dB @ 1 m

- Transformer Taps: 70V: 60W, 30W, 15W & 7.5W taps

The S1's backcan shall be made of formed steel, and the speaker suitable for use in air handling spaces, per UL-2043. An attachment loop shall be provided on the backcan for cabling to the building structure as a secondary support, as required by HAS standards.

2. **SPEAKER TYPE S2:** The following are the minimum performance specifications for the HAS approved Type S2 loudspeaker. The speaker shall be a compact, externally powered loudspeaker for professional sound reinforcement. It shall be used for wide-coverage applications (100 X 100) requiring a small cabinet. The speaker shall deliver high sound pressure levels, low distortion, and uniform directional control to meet the requirements for an Airport Paging System. The speaker shall be powered by an external 48V DC power supply (PSU1) which also provides monitoring of all the loudspeaker's parameters. The S2 loudspeaker's high-frequency section shall have a 1-inch metal dome tweeter on constant- directivity, high-frequency horn with a 100-degree beam-width. The low/mid-frequency section of S2 shall include two 5-inch cone transducers that work in parallel at low frequencies delivering a combined acoustic output, with one of the drivers rolling off above 320 Hz to prevent interference in the crossover region due to comb filtering effects. The S2 drivers are manufactured in the USA and are powered by three channels of onboard power amplification that include an active crossover, driver protection, and frequency and phase correction circuitry. The S2's cabinet and U-bracket will be painted to match the wall color specified by the project architect. The S2 specifications shall be:

- Operating Frequency Range: 75 Hz – 20 kHz
- Maximum Peak SPL: 123 dB-SPL
- Coverage: 100° symmetrical
- Transducers: Two 5" cone drivers and one 1" metal dome tweeter
- Voltage Requirement: 48 V DC (MPS external power supply)
- Audio/Power Connector: Phoenix 5-pin male (2-pins for DC, 3-pins balanced audio)
- Nominal Input Sensitivity: 0dBV (1.0 V rms, 1.4 V peak)
- Amplifier: Three channels (class-D)
- Output RMS Power: 350 W total
- Load Capacity: 8Ω low channels, 8Ω high channels
- Cooling: Convection

3. **SPEAKER TYPE S3:** The following are the minimum performance specifications for the HAS approved Type S3 loudspeaker. The speaker shall be a compact, externally powered loudspeaker for professional sound reinforcement. It shall be used for narrow-coverage applications (45 X 45) requiring a small cabinet. The speaker shall deliver high sound pressure levels, low distortion, and uniform directional control to meet the requirements for an Airport Paging System. The speaker shall be powered by an external 48V DC power supply (PSU1) which also provides complete monitoring of all the loudspeakers parameters. The S3 loudspeaker's high-frequency section shall have a 1-inch metal dome tweeter on constant-directivity, high-frequency horn with a 100-degree beam-width. The low/mid-frequency section of S3 shall include two 5-inch cone transducers that work in parallel at low frequencies delivering a combined acoustic output with one of the drivers rolling off above 320 Hz to prevent interference in the crossover region due to comb filtering effects. The S3 drivers are manufactured in the USA and are powered by three channels of onboard power amplification that include an active crossover, driver protection, and frequency and phase correction circuitry. The S3's cabinet and U-bracket will be

painted to match the wall color specified by the project architect. The S3 specifications shall be:

- Operating Frequency Range: 75 Hz – 20 kHz
 - Maximum Peak SPL: 123 dB-SPL
 - Coverage: 45° symmetrical
 - Transducers: Two 5" cone drivers and one 1" metal dome tweeter
 - Voltage Requirement: 48 V DC (MPS external power supply)
 - Audio/Power Connector: Phoenix 5-pin male (2-pins for DC, 3-pins balanced audio)
 - Nominal Input Sensitivity: 0dBV (1.0 V rms, 1.4 V peak)
 - Amplifier: Three channels (class-D)
 - Output RMS Power: 350 W total
 - Load Capacity: 8Ω low channels, 8Ω high channels
 - Cooling: Convection
4. **SPEAKER TYPE S4:** The following are the minimum performance specifications for the HAS approved Type S4 miniature "spot" loudspeaker. The loudspeaker shall be a self-powered loudspeaker designed for high-quality distributed systems. Housed in a compact custom paintable aluminum enclosure, the S4 has been selected by HAS for public spaces where installation space is limited and spot coverage is required. The type S4 loudspeaker delivers similar phase response as the S2, S3, and S5 loudspeakers giving the Airport Paging system a common level of intelligibility and performance. The S4 features a 4-inch cone transducer, manufactured in the USA that delivers a maximum peak SPL of 113 dB with an operating frequency range of 120 Hz to 18 kHz, and with very low distortion. The S4's amplifier and signal-processing circuits shall be designed to store DC power and tolerate voltage drops, thereby accommodating light-gauge cables and long cable runs. The S4 receives balanced audio and DC power from a SwitchCraft EN3 connector on its rear panel resulting in a compact loudspeaker that can be installed in a plenum without the use of an additional back box and still meet UL standards. The S4 loudspeaker requires an external 48V DC Power Supply (PSU1) that also provides complete monitoring of all the loudspeakers parameters. The S4 and U-bracket will be painted with a color selected by the architect.
5. **SPEAKER TYPE S5:** The following are the minimum performance specifications for the HAS-approved Type S5 loudspeaker. The S5 loudspeaker shall deliver excellent performance and intelligibility in large volume spaces with reflective surfaces such as glass walls and stone floors. The S5 loudspeaker shall use digital technology to steer the audio from its mounting location to the listener's ears. The self-powered S5 shall offer variable vertical beam coverage (5 degrees to 30 degrees vertical) that can be digitally steered up or down by 30 degrees.
- The S5 shall have 32 amplifier channels driving (8) 4-inch cone drivers and (24) 20 mm tweeters. The S5's maximum peak SPL shall be 106 dB peak at 30 m (98 ft.). Current draw during burst (< 1 sec) shall be 5.9A rms at 115 V, 2.9A rms at 230 V AC, and 7.4A peak at 100 VAC.
- Dimensions with mounting hardware shall be 7.75" wide x 54.32" high x 9.93" deep. Weight with mounting hardware shall be 80 lbs. The S5 also requires 120VAC power at its mounting location. Note: The AV Integrator shall notify the MEP of this requirement.

The S5 shall have a discrete onboard Class D amplifier that processes digital algorithms, and provides power to each driver and tweeter. The amplitude and phase responses of each driver are engineered to produce interactions that yield the desired vertical coverage.

The S5 loudspeaker shall include two AVB-enabled Ethernet ports for receiving AVB audio streams as source signals. These ports shall also provide computer control by control software to allow beam control and real-time monitoring of each loudspeaker on the network. The S5 shall come with adjustable mounting brackets for installation on walls or columns. The S5 will be painted to match the color selected by the architect.

- L. DC POWER SUPPLY TYPE PSU1: The PSU1 DC power supply is the companion device that delivers DC, balanced audio, and loudspeaker monitoring for the HAS approved S2, S3, and S4 loudspeakers. The PSU1 external power supply delivers DC power and balanced audio to up to eight S2, S3, and S4 loudspeakers. The unit shall be 1RU and outfitted with the factory-installed remote monitoring system to remotely monitor the status of all loudspeakers and transmit that information the HAS staff. HAS already has this software and monitoring PC in operation. The PSU1 shall be capable of receive up to eight individual channels of balanced audio from its XLR female input connectors and routes the audio, along with 48 V of DC power, to its eight output connectors. Input channels feature toggle switches that route inputs to corresponding channel outputs only, or to adjacent, contiguous channel outputs. The PSU1 is microprocessor equipped to control current limiting, short circuits, and unexpected voltages. The PSU1's outputs will be Phoenix 5-pin male. The PSU1's front panel has two LED's per channel output that provide useful feedback on the status of the system. The blue voltage LED indicates when voltage is present for each channel output. The green load current LED's indicate when a loudspeaker is connected to a channel output, glow brighter as the signal level increases, and blink when a short circuit is encountered.
- M. AMBIENT SENSING MICROPHONE ASM1: The ambient sensing microphone (ASM1) shall be used within each Airport Paging System zone. The microphone shall be a 1G line-level pressure zone device that utilizes standard microphone cable, have a frequency response of 80Hz to 20 kHz, and have a hemispherical pattern. The AV Integrator will locate each zone's microphones to ensure the required level control achieved.
- N. ADDITIONAL EQUIPMENT: It should be clear to a qualified AV Integrator that the Design Criterion presented in Section 27 51 00 A 2.2 is written to ensure the Houston Airport System receives an Airport Paging System (design) that will: Have a long useful life; deliver -2.0dB coverage; and provide the intelligibility called for in the HAS Design Division Section 272100-2. In the event that additional equipment is needed to provide additional Paging System functionality, the AV Integrator shall document the need to the HAS Project Manager by a submittal. It will be up to the HAS to either approve the recommendation or provide an approved alternate.
- O. SPARE EQUIPMENT INVENTORY: The AV Integrator shall provide a spare equipment inventory as part of their Airport Paging System design and installation. The spare equipment inventory list will be provided to HAS as part of the 100% SD deliverable for their review and approval. The following is a listing if the quantities of spare equipment required by type:
- Central Processor – None
 - I/O Frame – 2 each or 10% of the units installed
 - Digital Paging Stations – 2 each or 10% of the units installed
 - Touch screen Displays - 2 each or 10% of the units installed
 - Ambient Sensing Microphones 2 each or 10% of the units installed
 - 70V Amplifiers – 2 each or 10% of the units installed

- 70V Auto Change Over - 2 each or 10% of the units installed
- Speaker S1 to S4 - 2 each or 10% of the units installed
- Speaker S5 – 2 each or 10% of the units installed
- Power Supplies - 2 each or 10% of the units installed
- Any Analog or Digital Interface - 2 each or 10% of the units installed
- Additional Equipment Required - 2 each or 10% of the units installed

PART 3 EXECUTION (NOT APPLICABLE), SEE SECTION 27 51 00 D.

END OF SECTION 27 51 00 E

SECTION 27 51 00 F AIRPORT PAGING SYSTEM INFRASTRUCTURE & EXISTING CONDITIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Conditions of Contract, including all Supplementary Conditions, in Section 00 70 00 apply to this Section.

PART 2 – SUMMARY

2.1 OVERVIEW

- A. This section contains information relating to the infrastructure required for a Houston Airport System Paging System. The AV Integrator is responsible for establishing the infrastructural requirements for the Paging System and coordinating their installation with the MEP, project architect, and electrical contractor.
- B. The General Contractor and/or Electrical Contractor shall provide and install all necessary conduit, raceways, panelboards, high-voltage disconnects, isolation transformers, sequenced power panels, and high voltage components required for the AV Integrator to install a fully functioning Airport Paging System.
- C. The infrastructure required for an HAS Airport Paging System includes, but is not limited to, conduit, electrical, and structural elements.

PART 3 – DESCRIPTION

3.1 INFRASTRUCTURE

- A. Conduit: Audio, control, data and speaker cables being installed as part of an HAS Airport Paging System will be installed in conduit or raceways in accordance with the HAS Standards listed in 27 51 00 C and HAS Standard 271300: Backbone/Riser Media Infrastructure.
 - 1. Empty Conduit: Empty conduits may be installed and designated for future use. All "future use" conduits require the installation of a pull string with a 6' service loop in every pull box.
 - 2. Conduit Bends to Junction Box: The maximum number of bends allowed between pull boxes within a single conduit run shall not exceed 180 degrees. This can be any combination of 90 degree and 45 degree bends that when totaled do not exceed the total of 180 degrees in accordance with the NEC code.
 - 3. Conduit Bend Radius: The inside radius of bends in conduit shall be 6 times the internal diameter for 2" or less and 10 times the internal diameter for greater than 2".
 - 4. The Electrical Contractor shall provide a pull-string or jet-line with a 6' service loop in all Airport Paging System Conduits.
 - 5. Conduit Sizing: The conduit system has a maximum fill capacity of 40%. The following chart details the HAS standard for conduit capacity the electrical contractor shall follow.

HAS Conduit Size and Capacity Chart

		Conduit Size									
		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
Nominal ID:		0.62	0.82	1.05	1.38	1.61	2.07	2.73	3.36	3.83	4.33
31% Fill:		0.09	0.17	0.27	0.46	0.63	1.04	1.82	2.74	3.58	4.57
40% Fill:		0.12	0.21	0.35	0.6	0.81	1.34	2.34	3.54	4.62	5.9
53% Fill:		0.16	0.28	0.46	0.79	1.08	1.78	3.1	4.69	6.12	7.82

		Conduit Fill Chart - (Based on EMT Conduit Measurements in inches)									
Nominal Size		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
I.D. For EMT		0.62	0.82	1.05	1.38	1.61	2.07	2.73	3.36	3.83	4.33
Inside area		0.30	0.53	0.86	1.50	2.04	3.36	5.86	8.85	11.54	14.75
40% Fill Area (sq. in):		0.12	0.21	0.35	0.60	0.81	1.34	2.34	3.54	4.62	5.90

(EMT inside diameter information is from National Electric Code, 2008 edition)

3.2 AIRPORT PAGING SYSTEM TECHNICAL POWER & GROUNDING

- A. The National Electric Code (NEC) prohibits the installation of low-voltage (low-voltage) cables in the same conduit with high-voltage (high-voltage) cables.
- B. Technical Power and Technical Ground: The Technical Power service and Technical Ground for this Airport Paging System shall be designed to follow the National Electric Code (NEC) low-noise Hospital Grade (HG) Isolated Ground specifications defined in Section 250-75. The NEC low-noise, HG style Isolated Ground design is used in order to obtain an "equipotential ground" on all electrical circuits to which any Airport Paging System electrical device will be connected.
- C. Isolation transformer: An Isolation transformer is recommended in order to isolate the Airport Paging System from noise educing swing loads. It is the responsibility of the AV Integrator to coordinate this potential need with the MEP and HAS Staff.
- D. Technical Ground: The purpose of a technical grounding system is to provide a stable ground reference for all Airport Paging System equipment used in this system. This technical grounding will ensure that all systems specified herein will be free from ground loops and noise-inducing sources.
- E. Technical Power Testing & Verification: A neutral-to-ground, neutral-to-signal, and line-voltage measurements will be made on each circuit connected to the Technical Power Panelboard. In addition, each receptacle's wiring shall be tested with a ground fault tester. The acceptable range for the neutral measurement tests are Zero (0) VAC to .007 VAC Maximum. The AV Integrator will conduct all Technical Power testing and measurements with the assistance of the Electrical Contractor.
- F. Technical Power Documentation: The AV Integrator will observe and document the electrical contractor's test of the technical power and grounding systems. All test results shall be documented and included with the 95% CD Documentation Package for HAS review.
- G. The following electrical device manufacturers are approved for use in the Airport Paging System:
 1. Kellems
 2. Bryant
 3. Hubbell

3.3 EXISTING CONDITIONS

A. The following is the abbreviation key for the equipment inventory listed later in this section.

Abbreviations

ACS = Airport Communications System
AMB = Ambient
Attn = Attenuator
BGM = Back Ground Music
Cd = Card
CH = Channel
Coll = Collector
DA = Distribution Amp
DMS = Digital Mic Station
GN = Gooseneck
Hor = Horizontal
Leg = Legacy
LK - Locking
Mon = Monitor
Mt = Mount
PC = Computer
PSU = Power Supply Unit
RM = Rack Mount
RMS = Realtime Monitoring System
Rtr = Router
Sw = Switch
Tele = Telephone
Vert = Vertical
W/ = With

- B. Existing Equipment Verification: The following existing inventory information provided is representative and is for budgeting purposes only. It will be the selected AV Integrators responsibility to verify the accuracy of the HAS inventory provided in this section following contract award.
- C. The Houston Airport System will conduct one site visit to Houston Intercontinental Airport (IAH) and one site visit to William P. Hobby Airport (HOU) during the RFP Process. The date and time of these visits will listed in the RFP documents. Additional site visits may be added by the Houston Airport System as required.
- D. The HAS staff conducting the site visit will escort the AV Integrators to each of the Terminals included in the project.

Houston Airport System
All Terminals (IAH & HOU)

Paging System Equipment Inventory
Inventory as of May 2014

Manufacture	ModelNumber	Description	IAH Terminal A - ACS1	IAH Terminal B -ACS1	IAH Terminal C -ACS1	IAH Terminal D -ACS1	IAH Terminal E -ACS1	IAH FIS ACS7	Houston Hobby ACS
APC	APC	UPS (Unused)					1		
Avocent	DSR1021	KVM	1	1	1	1	1	1	1
Crown	Com-Tech 200	110W 2Ch 70V Amp	1						
Crown	Com-Tech 210	110W 2Ch 70V Amp	2	2					
Crown	Com-Tech 400	225W 2Ch 70V Amp		6		1			
Crown	Com-Tech 410	215W 4Ch 70V Amp		11		2			
Crown	CTS 1200	600W 2Ch 70V Amp				1			
Dell	Precision 5400	Computer	1	1	1	1	1	1	
Dell	Pwr Edge 2950	Server			1				
HP	Procurve 2524	Switch							2
IED	6416	Pwr Amp Backup Sw						10	
IED	0405L	PUS Card +5V, 19A	2	2	2		2	2	2
IED	0408M	PSU Mainframe	1	1	1		1	1	1
IED	0415L	PSU Card +/-15V, 6A	3	3	6		6	6	5
IED	0430L	PSU Card +30V, 6A	2	3					
IED	0452L	PSU Card for CPU	1	1	1		1	1	1
IED	05401-AC	Amb Attn/ConlCard				5			
IED	0540CPU	Amb Anal CPU Card	1	1	1	1	4	4	2
IED	05401	AmbienlAttn Card	2	2	15	1	36	27	18
IED	0540M	Ambient Anal Frame	1	1	2	1	4	4	2
IED	0540ML	Ambient Anal Sys							2
IED	0540PSL	Ambient PSU Card	1	1	2	1	4	4	2
IED	0590KD	Keyboard Drawer	1	1	1	1	1	1	1
IED	0590KDS	Keyboard Dwr w/LCD							
IED	0590R	PC (Non-working)	1						1
IED	0590RM	EM Monitor Frame	1	1	1	1	1	1	1
IED	0590RU	PC No KVM-lcd Tray							
IED	0590RU-DOS	RM PC (Legacy)	1	1	1	1	1	1	1
IED	0591D-Client	Computer	1						
IED	0596M	Mon/Test Mframe Leg	2	4	6	2	8	6	5
IED	6052L	Pwr Amp CPU for 6418					3	6	
IED	6160-8L	Pwr Amp Mainframe				4	1	3	
IED	6270L	100W Mono 70V Amp		12	95	23	15	29	
IED	6272L	100W 2Ch 70V Amp					15	39	
IED	6416-S	Pwr Amp Backup Sw					4		
IED	6800-8L	Pwr Amp Mainframe		2	13		1	7	
IED	A500C	ACS Mic Interface Cd	4	9	10	2	7	4	6
IED	A500D	ACS Zone Output Cd	1	5	11	5	18	9	9
IED	A500M	ACS Mainframe	2	2	3	2	3	2	2
IED	A500PS	ACS PSU (Legacy)				1			
IED	A500R	ACS DRP Page Rtr Cd	1	1	1	1	1	1	1
IED	A508BIO	DMS Process 641/O					1	1	1
IED	A508DT-G	DMS Desktop GN						3	
IED	A508HFM-H	DMS Hor Flush Mt	2		61	4	45		16
IED	A508RMC	ACS RM Station	1	1		1			
IED	A508SRM-H	DMS RM w/ Speaker			1		1	1	1
IED	A508T-1	DMS Single Tele							
IED	A508T-2	DMS Dual Telephone	6	4	1	3	1	4	4
IED	A508VFM-H	DMS Vert Flush Mt			1	3		11	1
IED	A510N	Digital Network Card	2	2	2	2	1	1	1
IED	A518HFM-H	DMS Hor Flush Mt							11
IED	A518VFM-H	DMS Hor Flush Mt							21
IED	A528HDT-H	DMS Hor Desktop	11						
IED	A528HFM-H	DMS Hor w/Lk Door	1		13	10			
IED	A528LD-H	DMS Vert w/Lk Door		14					
IED	A528VDT-H	DMS Vert Desktop	2	1	1				2
IED	ADC Announce	(Non-working)	2	2		2			
IED	IED 8001 CPU	CPU Card			1		3	2	3
IED	IED 8001 MF	Mainframe			1		3	2	3
IED	IED 8044 DSP	DSP Card			10		20	14	23
IED	T6002L	2ch Line Driver Card		11					
IED	T6471L	400W 2Ch 70V Amp		37					8

Manufacture	Model Number	Description	IAH Terminal A -ACS1	IAH Terminal B -ACS1	IAH Terminal C -ACS1	IAH Terminal D -ACS1	IAH Terminal E -ACS1	IAH FIS ACS7	Houston Hobby ACS
IED	T6472L	200W 2Ch 70V Amp	33	11	8				23
IED	T9032NS	Amb Coli 32ch (not)	1	3					2
IED	T9116L	16 x 16 Processor	1						
IED	T9160L	Mainframe+Backup	5	3	6				4
LD	LD Switch	Power Switch	1						
Mbox	49470	BGM Player	1						
Meyer	Galileo 408	Meyer Sound		5					
Meyer	MPS-488 HPe	48V DC PSU	2	17					
Meyer	RMS Server	RMS Server		2					
Meyer	Stella-188	18V DC PSU		1					
NEC	72VX	LCD Monitor	1	1	1	1	1	1	
QSC	CX602V	440W 2Ch 70V Amp							27
QSC	Rave 160s	Digital Audio Router							2
Rane	AC22	Audio EQ (Legacy)	2	1		1			
RTS	RTS Systems	Audio DA (Legacy)	1			3			
Symmetrix	Processor	Really Old (Legacy)	2	2		1			
Systemax	Network Cable	Connector		2					
TOA	M-900MK2	Amplifier							1
Varian	PwrEdge 1950	Server	1						
White	Crossover	Really Old (Legacy)	2	2		2			
Yamaaa	290	Speaker		1		1			

END OF SECTION 27 51 00 F

Houston Airport System
All Terminals (IAH & HOU)

Paging System Equipment Inventory
Inventory as of May, 2014

ATTACHMENT 1A

AV INTEGRATOR & AIRPORT PAGING SYSTEM COMPLIANCE MATRIX

SOLICITATION NO. S10-H25308

AV INTEGRATOR & AIRPORT PAGING SYSTEM COMPLIANCE MATRIX				
Section #	Description	Yes, Fully Compliant	Partially-Compliant (Explain on Separate Sheet)	No, Not-Compliant
One	Company Information			
1.01	Did your company submit a proposal for the HAS Airport Paging Project?			
1.02	Does your company currently have a Health & Safety Program?			
1.03	Has the company had an OSHA violation within the past 12 months?			
1.04	Is the company a Minority or Woman Owned Business?			
1.05	Is the company Incorporated?			
1.06	Is the company a Limited Liability Corporation (LLC)?			
1.07	Is the company a Partnership?			
1.08	Is the company a sole-proprietorship?			
Two	Staffing & Training			
2.00	Do you have more than 25 full-time employees?			
2.01	Do you have more than 50 full-time employees?			
2.02	Do you have more than 75 full-time employees?			
2.03	Do you have more than 10 full-time Field Installation Technicians?			
2.04	Do you have more than 20 full-time Field Installation Technicians?			
2.05	Do you have more than 30 full-time Field Installation Technicians?			
2.06	Do you have 4 full-time AV designers who are experienced in designing networked paging systems?			
2.07	Do you have 8 full-time AV designers who are experienced in designing networked paging systems?			
2.08	Do you have more than 3 current full-time employees who have been factory trained on Biamp Vocia?			
2.09	Do you have more than 3 current full-time employees who have been factory trained on Com-Net AirportVoice?			
2.10	Do you have more than 3 more current full-time employees who have been factory trained on IED Globalcom?			
2.11	Do you have more than 3 current full-time employees who have been factory trained on QSC Q-Sys?			
2.12	Do you have more than more than 4 full-time employees whose only job is Service and Repair?			
2.13	Do you have more than more than 8 full-time employees whose only job is Service and Repair?			
2.14	Do you have more than 2 full-time employees who are AutoCAD qualified?			
2.15	Do you have more than 4 full-time employees who are AutoCAD qualified?			
2.16	Do you have more than 2 full-time employees who are Revit qualified?			
2.17	If you are awarded this project, will you maintain the staffing and training you have established in this section through completion?			
2.18	Do you have a CCNA (Cisco Certified Network Associate) on staff?			
2.19	Do you have a CCNP (Cisco Certified Network Professional) on staff?			

ATTACHMENT 1A
AV INTEGRATOR & AIRPORT PAGING SYSTEM COMPLIANCE MATRIX
SOLICITATION NO. S10-H25308

Three	Dealer Status			
3.00	Are you a Certified dealer for Biamp Vocia?			
3.01	Are you a Master Certified dealer for Com-Net AirportVoice?			
3.02	Are you a Master Certified dealer for IED?			
3.03	Are you a Level-2 Certified dealer for QSC Q-Sys?			
3.04	Are you a Factory Authorized dealer for JBL Professional			
3.05	Are you a Factory Authorized dealer for Meyer Sound?			
3.06	Are you a Factory Authorized dealer for BSS?			
3.07	Are you a Factory Authorized dealer for Crown International?			
3.08	Are you a Factory Authorized dealer for Shure Microphones?			
Four	Design and Modeling Capabilities			
4.00	Do you currently have and use Biamp Vocia Designer software?			
4.01	Do you currently have and use Com-Net Designer software?			
4.02	Do you currently have and use Globalcom Designer software?			
4.03	Do you currently have and use Compass Designer software?			
4.04	Do you currently have and use AutoCAD 2013 or Higher?			
4.05	Do you currently have and use Revit 2013 or Higher?			
4.06	Do you currently have and use QSC Q-SYS Designer Software V4?			
4.07	Do you currently have and use Ease 4.4?			
4.08	Do you currently have and use CATT-Acoustic modeling software?			
4.09	Do you currently have and use MAPP modeling software?			
Five	Test Equipment			
5.00	Do you at least one Nti XL2 Acoustic and Audio Analyzer?			
5.01	Do you own two or more Nti XL2 Acoustic and Audio Analyzers?			
5.02	Do you own at least one Larson Davis 824 or comparable Class 1 Meter and calibrator?			
5.03	Do you own two or more Larson Davis 824 or comparable Class 1 Meters and calibrators?			
5.04	Do you own at least one SIM III Analyzer with DPA Microphones for acceptance testing?			
5.05	Do you own two or more SIM III Analyzers with DPA Microphones for acceptance testing?			
5.06	Do you own at least one Noyes TS5-6 or comparable Fluke Single Mode fiber optic tester?			
5.07	Do you own two or more Noyes TS5-6 or comparable Fluke Single Mode fiber optic testers?			

ATTACHMENT 1A
AV INTEGRATOR & AIRPORT PAGING SYSTEM COMPLIANCE MATRIX
SOLICITATION NO. S10-H25308

Six	Airport Paging Specifications			
6.00	Have you read Section 27 51 00?			
6.01	Have you read the HAS Design Division Guideline a. Section 270553: Identification and Labeling of Communication Infrastructure?			
6.02	Have you read and do you understand the HAS Design Division Section 271100: Communication Cabinets and Equipment Rooms?			
6.03	Have you read and do you understand the HAS Design Division Section 271300: Backbone/Riser Media Infrastructure?			
6.04	Have you read and do you understand the HAS Design Division Section 270528: Interior Communication Pathways?			
6.05	Have you read and do you understand the HAS Design Division Section 270543: Exterior Communication Pathways?			
6.06	Have you read and do you understand the HAS Design Division Section 270526: Telecommunications Grounding and Bonding?			
6.07	Have you read and do you understand the HAS Design Division Section 272100 Data Communication Network Equipment?			
6.08	Have you read and do you understand and do you understand the HAS Design Division Section 275200 Acoustical Standards for Interior Public Areas?			
6.09	Are you willing to commit the human resources necessary to meet the installation schedule timeline for each phase of the HAS Airport Paging System project?			
6.10	Do you currently own all the necessary tools, lifts, ladders, scaffolding, installation instrumentation, computers, and test equipment necessary to fulfill the scope of work specified for an HAS Paging System?			
6.11	Do you agree that all software and the programming thereof will become the property of the Houston Airport System upon final acceptance of the Paging System?			
6.12	Do you understand and agree to fulfill the deliverable requirements and schedule listed in the specifications?			
6.13	Do you understand that if awarded this project, your company will be providing a one year parts and labor warranty for each phase of this project?			
6.14	Do you understand the Warranty response times as defined in the specifications?			
6.15	Do you understand that, if you awarded this project that your company is responsible for coordinating the paging system design with the MEP, Architect, Electrician, and the HAS IT Department?			
6.16	Do you understand that you will be required to attend some construction meetings? (The number of meetings at this time is to be determined.)			
6.17	Have you read and do you understand the Airport Paging System Design Criteria listed in the specifications?			
6.18	Do you understand the training requirements listed in the specifications?			
6.19	Do you understand and agree to the conditions detailed in the Acceptance Testing section of the specifications?			
6.20	Do you understand that the preferred HAS ceiling speaker pattern is a minimum overlap design using a square layout pattern?			
6.21	Do you agree to test each paging system loudspeaker as defined in the specifications?			
6.22	Have you reviewed and do you agree to use the HAS approved loudspeaker types listed in the specifications?			
6.23	Have you reviewed and do you agree to use the HAS Location Matrix listed in the specifications?			
6.24	Do you understand the HAS 70V Amplifier Loading Standards listed in the specifications?			
6.25	Do you understand the HAS Standard for redundant wiring of self-powered loudspeaker zones listed in the specifications?			
6.26	Do you understand that all airport paging system network equipment, electronics, digital paging stations, power supplies, and loudspeakers will be listed under the appropriate UL class?			

ATTACHMENT 1A
AV INTEGRATOR & AIRPORT PAGING SYSTEM COMPLIANCE MATRIX
SOLICITATION NO. S10-H25308

6.27	Will you design the HAS Airport Paging System using equipment and devices that carry a 3-year parts and labor warranty from the manufacturer?			
6.28	Do you understand the seamless auto failover concept described in Section 3.5 A 1?			
6.29	Do you understand the redundant design concept described in Section 3.5 A 4?			
6.30	Are you familiar with the connectors utilized in the configuration of the Central Processor?			
6.31	Do you understand that for routed networks the end-to-end system latency shall be 3.5 ms or less?			
6.32	Have you previously installed a central processor of this type in a multi-zone format paging system?			
6.33	Are you familiar with the DSP functionality described in Section 3.5 A 5?			
6.34	Have you ever configured a multi-zone paging system that uses a Web Controlled interface as described in Section 3.5 A 8?			
6.35	Do you understand that the Airport Paging System will be interfaced with a Text to Speech Server?			
6.36	Have you previously installed multi-zone paging systems that were based upon a gigabit Ethernet network?			
6.37	Do you understand that you will be interfacing a new networked paging system to an existing HAS paging system?			
6.38	Do you understand that during the migration period that both headends may be operable?			
6.39	Do you understand that you will be providing the rack mounted PC's in each headend and that HAS will provide the preferred manufacturer and configuration?			
6.40	Do you understand that you must use the HAS approved devices listed in the specifications?			
6.41	Do you understand that the 4-channel 70V amplifier specified is the smallest power amplifier you may use in your design?			
6.42	Do you understand the design and configuration of a real-time monitor server (RMS1) listed in the specifications?			
6.43	Do you understand that the S5 speaker is to be used in large volume spaces with reflective surfaces so that fewer speakers are required and intelligibility can be achieved?			
6.44	Do you understand that the Airport Paging System will be tested for intelligibility using the STIPA?			
6.45	Do you understand that you cannot use wire nuts to terminate speaker wires on an HAS Paging System?			
Seven	Prior Experience			
7.00	Has your company designed a networked paging system for an Airport within the past 6 months?			
	What is the name of project?			
7.01	Has your company designed a networked paging system for an Airport within the past 18 months?			
	What is the name of project?			
7.02	Has your company designed a large format (30 zones or larger) networked paging system within the past 6 months?			
	What is the name of project?			

ATTACHMENT 1A
AV INTEGRATOR & AIRPORT PAGING SYSTEM COMPLIANCE MATRIX
SOLICITATION NO. S10-H25308

7.03	Has your company designed a speech announcement system for a large reverberant space / venue within the past 12 months? What is the name of project?			
Eight	System Pricing			
8.00	Are you willing to provide the Houston Airport with a line item bid response for the HAS Airport System project?			
8.01	If you are awarded this project, will you hold your bids equipment and labor price for each Terminal for 6 months from the date bids are received?			
8.02	If you are awarded this project, will you hold your bids equipment and labor price for each Terminal for 12 months from the date bids are received?			
8.03	If you are awarded this project, will you hold your bids equipment and labor price for each Terminal for 18 months from the date bids are received?			
8.04	If you are awarded this project, will you hold your bids equipment and labor price for each Terminal for 24 months from the date bids are received?			
8.05	if you are awarded this project, will you hold your bids equipment and labor price for the entire project?			
Nine	Local Service & Support			
9.00	Do you currently have a local office within 2 hours of a IAH and HOU?			
9.01	If you are an out of town company and you are awarded this project, are you willing to provide local service and support during the warranty period?			
9.02	If you are an out of town company and you are awarded this project, are you willing to establish a local presence during the run of contract?			
9.03	Since an airport is a 24/7 operation, will HAS be able to reach your service department and/or on-call technician 24/7?			
9.04	Do you maintain a normal inventory of critical system components in the event of a major Paging System Failure ?			

Submitted by: _____

Title: _____

Company: _____

Date: _____

EXHIBIT I – OFFER AND SUBMITTAL
SOLICITATION NO. S10-H25308

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 APPLIED PERCENTAGE OF GROSS SALES CONTAINED THEREIN SHALL REMAIN FIRM FOR A PERIOD OF ONE-HUNDRED EIGHTY (180) DAYS.

"PROPOSER 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_____

I. LIST OF PREVIOUS CUSTOMERS

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

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

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

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

EXHIBIT II – ATTACHMENT “A”: SCHEDULE OF M/WBE PARTICIPATION

SOLICITATION NO.: S10-H25308

DATE OF REPORT: _____

BID NO.: _____

FORMAL BID TITLE: _____

NAME OF MINORITY/WOMEN SUBCONTRACTOR	OFFICE OF BUSINESS OPPORTUNITY 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.: S10-H25308

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 THE OFFICE OF BUSINESS OPPORTUNITY 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 OFFICE OF BUSINESS OPPORTUNITY.
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.: S10-H25308**

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** _____%

1. _____ 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 Directory made
(Name of Minority/Women Business Enterprise)
available through the City of Houston Office of Business Opportunity. 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.: S10-H25308

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 Office of Business Opportunity (“the Director”).
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 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 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 or upon written notice to the Director from either party that a dispute has arisen, the Director 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 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 Office of Business Opportunity.
 - 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 Office of Business Opportunity arbitration for the City, the Director 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 Office of Business Opportunity at (713) 837-9000, 611 Walker, 7th Floor, Houston, Texas 77002.

**EXHIBIT II – ATTACHMENT “D”: OFFICE OF BUSINESS OPPORTUNITY AND
 CONTRACT COMPLIANCE M/WBE UTILIZATION REPORT
 SOLICITATION NO.: S10-H25308**

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 OBO 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.

Office of Business Opportunity
 ATTN: Carlecia Wright 713-837-9000
 611 Walker, 7th Floor
 Houston, Texas 77002

**EXHIBIT III – ATTACHMENT A
FEE SCHEDULE
SOLICITATION NO.: S10-H25308**

ITEM NO.	LABOR CLASSIFICATION TITLES	HOURLY RATE

ITEM NO.	YEAR OF SERVICE	LUMP SUM ANNUAL MAINTENANCE/REPAIR PLAN
	YEAR-1	
	YEAR-2	
	YEAR-3	
	OPTION YEAR-1	
	OPTION YEAR-2	

EXHIBIT III (ATTACHMENT A): George Bush Intercontinental & William P. Hobby Airports
Paging System Pricing Forms
SOLICITATION NO.: S10-H25308

Line	IAH Terminal - D			Terminal-D ACS Head-end Only			\$ Each	\$ Extended Cost	Labor \$ for EA Unit of Service
	Description	Device ID	Qty.	Manufacturer	Model	Description			
1	ACS Rack	CP1	1			Paging System Central Processor			
2	ACS Rack	TTS1	12			5-Language TTS & Software per gate			
3	ACS Rack	IOF1	4			Input Frame w/ 4 Mic/ Line In Cards			
4	ACS Rack	IOF2	4			Output Frame w/ 4 Line Out Cards			
5	ACS Rack	SBI1	3			8-Ch Serial Bridging Interface & N-Port			
6	ACS Rack	APA1	15			4Ch 70V Audio Power Amplifier 300W X 4			
7	ACS Rack	AAC1	5			Amplifier Auto-changeover Panel			
8	In the Terminal	ASM1	48			Ambient Sensing Line-Level Microphone			
9	ACS Rack	NS1	3			24 Port Managed Switch			
10	ACS Rack	PC1	1			Rack Mounted PC Monitor and Keyboard in Drawer			
11	ACS Rack	IAC1	500			Balanced Audio Cable - In Rack Only			
12	ACS Rack	IAC1	100			HAS Approved AV Connectors			
13	ACS Rack	IOC1	500			HAS Approved CatX Cable			
14	ACS Rack	AVRA03	2			AV Rack Hardware 3 (\$300 line item)			
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Note: All quantities listed above are estimates. Proposer to verify actual quantities required.

EXHIBIT III (ATTACHMENT A): George Bush Intercontinental & William P. Hobby Airports
Paging System Pricing Forms
SOLICITATION NO.: S10-H25308

Line	IAH Terminal - E			Terminal-E ACS Headend Only			\$ Each	\$ Extended Cost	Labor \$ for EA Unit of Service
	Description	Location	Device ID	Qty	Manufacturer	Model			
1	ACS Rack	CP1	1			Paging System Central Processor			
2	ACS Rack	TTS1	15			5-Language TTS & Software per gate			
3	ACS Rack	IOF1	4			Input Frame w/ 4 Mic/ Line In Cards			
4	ACS Rack	IOF2	4			Output Frame w/ 4 Line Out Cards			
5	ACS Rack	SBI1	6			8-Ch Serial Bridging Interface & N-Port			
6	ACS Rack	APA1	17			4Ch 70V Audio Power Amplifier 300W X4			
7	ACS Rack	AAC1	7			Amplifier Auto-changeover Panel			
8	In the Terminal	ASIM1	48			Ambient Sensing Line-Level Microphone			
9	ACS Rack	NS1	3			24 Port Managed Switch			
10	ACS Rack	PC1	1			Rack Mounted PC Monitor and Keyboard in Drawer			
11	ACS Rack	IAC1	750			Balanced Audio Cable - In Rack Only			
12	ACS Rack	IAC1	100			HAS Approved AV Connectors			
13	ACS Rack	ICC1	500			HAS Approved CatX Cable			
14	ACS Rack	AVRA03	3			AV Rack Hardware 3 (\$300 line item)			
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Note: All quantities listed above are estimates. Proposer to verify actual quantities required.

EXHIBIT III (ATTACHMENT A): George Bush Intercontinental & William P. Hobby Airports
Paging System Pricing Forms
SOLICITATION NO.: S10-H25308

Description		IAH FIS			FIS ACS Head-end Only			Labor \$ for EA Unit of Service
Line	Location	Device ID	Qty.	Manufacturer	Model	Description	\$ Each	
1	ACS Rack	CP1	1			Paging System Central Processor		
2	ACS Rack	TTS1	2			5-Language TTS & Software per gate		
3	ACS Rack	IOF1	3			Input Frame w/ 4 Mic/ Line In Cards		
4	ACS Rack	IOF2	32			Output Frame w/ 4 Line Out Cards		
5	ACS Rack	SB11	3			8-Ch Serial Bridging Interface & N-Port		
6	ACS Rack	APA1	40			4Ch 70V Audio Power Amplifier 300W X 4		
7	ACS Rack	AAC1	13			Amplifier Auto-changeover Panel		
8	In the Terminal	ASM1	32			Ambient Sensing Line-Level Microphone		
9	ACS Rack	NS1	2			24 Port Managed Switch		
10	ACS Rack	PC1	1			Rack Mounted PC Monitor and Keyboard in Drawer		
11	ACS Rack	IAC1	500			Balanced Audio Cable - In Rack Only		
12	ACS Rack	IAC1	100			HAS Approved AV Connectors		
13	ACS Rack	ICC1	500			HAS Approved CatX Cable		
14	ACS Rack	AVRA03	2			AV Rack Hardware 3 (\$300 line item)		
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Note: All quantities listed above are estimates. Proposer to verify actual quantities required.								
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EXHIBIT III (ATTACHMENT A): George Bush Intercontinental & William P. Hobby Airports
Paging System Pricing Forms
SOLICITATION NO.: S10-H25308

Line	Description		Houston Hobby			Main Terminal ACS Head-end Only			\$ Each	\$ Extended Cost	Labor \$ for EA Unit of Service
	Location	Device ID	Qty.	Manufacturer	Model	Description					
1	ACS Rack	CP1	2			Paging System Central Processor					
2	ACS Rack	TTS1	25			5-Language TTS & Software per gate					
3	ACS Rack	IOF1	4			Input Frame w/ 4 Mic/ Line In Cards					
4	ACS Rack	IOF2	4			Output Frame w/ 4 Line Out Cards					
5	ACS Rack	SBI1	15			8-Ch Serial Bridging Interface & N-Port					
6	ACS Rack	APA1	34			4Ch 70V Audio Power Amplifier 300W X 4					
7	ACS Rack	AAC1	15			Amplifier Auto-changeover Panel					
8	In the Terminal	ASW1	20			Ambient Sensing Line-Level Microphone					
9	ACS Rack	NS1	2			24 Port Managed Switch					
10	ACS Rack	PC1	1			Rack Mounted PC Monitor and Keyboard in Drawer					
11	ACS Rack	IAC1	500			Balanced Audio Cable - In Rack Only					
12	ACS Rack	IAC1	100			HAS Approved AV Connectors					
13	ACS Rack	ICC1	500			HAS Approved CatX Cable					
14	ACS Rack	AVRA03	2			AV Rack Hardware 3 (\$300 line item)					
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Note: All quantities listed above are estimates. Proposer to verify actual quantities required.

EXHIBIT III (ATTACHMENT A): George Bush Intercontinental & William P. Hobby Airports
Paging System Pricing Forms
SOLICITATION NO.: S10-H25308

Description: Houston Airport System		Spare Package for Houston Intercontinental Airport						\$ Each	\$ Extended Cost	Labor \$ for EA Unit of Service
Line	Location	Device ID	Qty.	Manufacturer	Model	Description				
1	HAS Offices	CP1	1			Paging System Central Processor				
2	HAS Offices	PC1	1			Rack Mounted PC Monitor and Keyboard in Drawer				
3	HAS Offices	IOF1	2			Input Frame w/ 4 Mic/ Line In Cards				
4	HAS Offices	IOF2	2			Output Frame w/ 4 Line Out Cards				
5	HAS Offices	SBI1	3			8-Ch Serial Bridging Interface & N-Port				
6	HAS Offices	APA1	17			4Ch 70V Audio Power Amplifier 300W X 4				
7	HAS Offices	AAC1	6			Amplifier Auto-changeover Panel				
8	HAS Offices	ASM1	26			Ambient Sensing Line-Level Microphone				
9	HAS Offices	NS1	2			24 Port Managed Switch				
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Note: All quantities listed above are estimates. Proposer to verify actual quantities required.									Page Total:	

**EXHIBIT IV – INSURANCE REQUIREMENTS AND SAMPLE
INSURANCE CERTIFICATE
SOLICITATION NO.: S10-H25308**

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):

=====CANCELLATION=====

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.

**EXHIBIT IV – INSURANCE REQUIREMENTS AND SAMPLE
INSURANCE CERTIFICATE
SOLICITATION NO.: S10-H25308**

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.: S10-H25308

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 (X) Commercial General Liability Claims Made (X) Occur. Owners & Contractors Prot.			General Aggregate Products-Comp/Op Agg. Personal & Adv. Injury Each Occurrence \$ 500,000 Fire Damage (Any one fire) \$ 50,000 Med. Expense \$ 5,000 (Any one person)	\$1,000,000 \$1,000,000 \$1,000,000
A.	Automobile Liability (X) Any Auto or used in the course of performance of this (X) All Owned Autos Contract. Including Owned, Non-owned, and () Scheduled Autos Hired Auto coverage. (Any Auto coverage () Hired Autos may be substituted for Owned, Non-owned () Non-Owned Autos and Hired Auto Coverage.) If no autos are Garage Liability 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 Other	Statutory Limits		(X) Statutory Limits Each Accident Disease - Policy Limit Disease - Each Employee	\$ 100,000 \$ 100,000 \$ 100,000

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.: S10-H25308

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 directors 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.: S10-H25308**

CITY OF HOUSTON FAIR CAMPAIGN ORDINANCE

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-elect) during a certain period of time prior to and following the award of the Contract by the City Council. The term “Contractor” Includes proprietors of proprietorships, partners or joint venture’s having an equity interest of 10 percent or more for the partnership or Joint venture, and officers, directors and holders of 10 percent or more of the outstanding shares of corporations. A statement disclosing the. names and business addresses of each of those persons will be required to be submitted with each Bid or Proposal for a City Contract. See Chapter 18 of the Code of Ordinances, Houston, Texas, for further information.

This list is submitted under the Provisions of Section 18-36(b) of the Code of Ordinances, Houston, Texas, in connection with the attached Proposal, submission or bid of:

Firm or Company Name: _____

Firm or Company Address: _____

The firm/company is organized as a (Check one as applicable) and attach additional pages if needed to supply the required names and addresses:

SOLE PROPRIETORSHIP

Name _____	_____
Proprietor	Address

A PARTNERSHIP

List each partner having equity interest of 10% or more of partnership (if none state “none”):

Name _____	_____
Partner	Address

Name _____	_____
Partner	Address

A CORPORATION

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

Name _____	_____
Director	Address

Name _____	_____
Director	Address

Name _____	_____
Director	Address

**EXHIBIT V – FORM “A”: FAIR CAMPAIGN
SOLICITATION NO.: S10-H25308**

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.: S10-H25308**

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.: S10-H25308

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:

NON-PROFIT ENTITY:

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

- NON-PROFIT CORPORATION
- UNINCORPORATED ASSOCIATION

EXHIBIT VI: AFFIDAVIT OF OWNERSHIP OR CONTROL
SOLICITATION NO.: S10-H25308

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 (____) _____
Email Address **[OPTIONAL]** _____

EXHIBIT VI: AFFIDAVIT OF OWNERSHIP OR CONTROL
SOLICITATION NO.: S10-H25308

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.: S10-H25308**

- (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 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.: S10-H25308**

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.: S10-H25308**

I, _____ as an owner or officer of

 _____ (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 VII – ATTACHMENT “C” AND “D”
 CONTRACTOR’S CERTIFICATION OF NO SAFETY IMPACT POSITIONS
 SOLICITATION NO.: S10-H25308**

I, _____
 (Name) (Print/Type) (Title)

as an owner or officer of _____ (Contractor) have authority to bind the Contractor with respect to its bid, and I hereby certify that Contractor has no employee safety impact positions as defined in §5.18 of Executive Order No. 1-31 that will be involved in performing this City Contract. Contractor agrees and covenants that it shall immediately notify the City's Director of Personnel if any safety impact positions are established to provide services in performing this City Contract.

 Date Contractor Name

 Signature

 Title

**CONTRACTOR'S CERTIFICATION OF NON-APPLICATION OF
 CITY OF HOUSTON DRUG DETECTION AND DETERRENCE PROCEDURES
 FOR CONTRACTORS**

ATTACHMENT “D”

I _____ as an owner or officer of
 (NAME) (PRINT/TYPE)

_____ (Contractor) have authority to bind the Contractor with respect to its bid, and I hereby certify that Contractor has fewer than fifteen (15) employees during any 20-week period during a calendar year and also certify that Contractor has no employee safety impact positions as defined in 5.18 of Executive Order No. 1-31 that will be involved in performing this City Contract. Safety impact position means a Contractor's employment position involving job duties that if performed with inattentiveness, errors in judgment, or diminished coordination, dexterity, or composure may result in mistakes that could present a real and/or imminent threat to the personal health or safety of the employee, co-workers, and/or the public.

 DATE CONTRACTOR’S NAME

 SIGNATURE

 TITLE

EXHIBIT VIII – ANTI-COLLUSION STATEMENT
SOLICITATION NO.: S10-H25308

II. 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.: S10-H25308

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.

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor or other person doing business with local governmental entity

OFFICE USE ONLY

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.

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

Adopted 06/29/2007

EXHIBIT X – FORM “1A”
PAY OR PLAY PROGRAM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: S10-H25308

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 – FORM “1A”
PAY OR PLAY PROGRAM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: S10-H25308

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 Office of Business Opportunity (OBO) 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.

EXHIBIT X – FORM “1A”
PAY OR PLAY PROGRAM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: S10-H25308

Document 00460
(Form POP-1A)



City of Houston

**Pay or Play Program
Acknowledgement Form**

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.

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

Email Address

EXHIBIT X – FORM “1A”

PAY OR PLAY PROGRAM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: S10-H25308

Form POP-2



City of Houston
 Certification of Compliance with
 Pay or Play Program



Contractor Name: _____ \$ _____
(Contractor/Subcontractor) (Amount of Contract)

Contractor Address: _____

Project No.: [GFS/CIP/AIP/File No.] _____

Project Name: [Legal Project Name] _____

POP Liaison Name: _____

In accordance with the City of Houston Pay or Play Program authorized by Ordinance 2007-534 and Executive Order 1-7, Contractor/Subcontractor 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 all covered employees. The Contractor/Subcontractor may also Pay on behalf of some covered employees and Play on behalf of other covered employees.

The Contractor/Subcontractor will comply with all provisions of the Pay or Play Program and will furnish all information and reports requested to determine compliance with program requirements of the Pay or Play Program (See Executive Order 1-7 for the terms of the Pay or Play program) The criteria of the program is as follows:

The Contractor/Subcontractor agrees to "Pay" \$1.00 per hour for work performed by covered employees under the contract with the City. If independent contract labor is utilized the Contractor/Subcontractor agrees to report hours worked by the independent contract laborer and pay \$1.00 per hour for work performed.

Otherwise the Contractor/Subcontractor agrees to "Play" by providing health benefits to each covered employee. The health benefits must meet the following criteria:

1. The employer will contribute no less than \$150 per employee per month toward the total premium cost for single coverage only; and
2. The employee contribution, if any amount, will be no greater than 50% of the total premium cost and no more than \$150 per month.
3. Pursuant to E.O. 1-7 section 4.04 a contractor is deemed to have complied with respect to a covered employee who is not provided health benefits if the employee refuses the benefits and the employee's contribution to the premium is no more than \$40 per month.

Please select whether you choose to:	Pay	Play	Both

The Contractor/Subcontractor will file compliance reports with the City, which will include activity for covered employees subject to the program, in the form and to the extent requested by the administering department. Compliance reports shall contain information including, but not limited to, documentation showing employee health coverage and employee work records.

Note: The Contractor is responsible to the City for the compliance of covered employees of covered subcontractors and only forms that are accurate and complete will be accepted.

*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"
William P. Hobby Airport
Pre-Proposal Tour Registration Form
SOLICITATION NO.: S10-H25308

Pre-Proposal Tour Registration Form

Attendee Name _____

Attendee Name _____

Attendee Name _____

Company Name _____

Phone Number _____

Fax Number _____

E-mail Address _____

William P. Hobby guided airport tour will be held on February 19 2015 immediately following the Pre-Proposal Conference. The tour will occur on the secured sides of the Airport; therefore, unless an attendee is flying on the day of the meeting, it will be necessary to escort attendees through the security checkpoint. To facilitate security clearance, HAS requests interested individuals register for the Pre-Proposal Tour. Please complete and fax this form to:

Houston Airport System
Attn: Governor Henderson
Fax: 281-203-8094

- Attendees must fax this form to Governor Henderson no later than 4:00 p.m. CST on February 17, 2015 in order to participate in the tour.
- To participate in the tour, attendees must bring current picture identification, such as a driver's license or passport.
- Proposers are requested to limit the number of attendees to **no more than three people** per business.

EXHIBIT "XII"
George Bush Intercontinental Airport
Pre-Proposal Tour Registration Form
SOLICITATION NO.: S10-H25308

Pre-Proposal Tour Registration Form

Attendee Name _____

Attendee Name _____

Attendee Name _____

Company Name _____

Phone Number _____

Fax Number _____

E-mail Address _____

IAH George Bush International Airport guided airport tour will be held on February 20, 2015 at 11:00 a.m. CST. Interested parties shall meet at Supply Chain Management, 18600 Lee Road, Humble, Texas 77338. The tour will occur on the secured sides of the Airport; therefore, it will be necessary to escort attendees through the security checkpoint. To facilitate security clearance, HAS requests interested individuals register for the pre-proposal tour. Please complete and fax this form to:

Houston Airport System
Attn: Governor Henderson
Fax: 281-203-8094

- Attendees must fax this form to Governor Henderson no later than 4:00 p.m. CST on February 17, 2015 in order to participate in the tour.
- To participate in the tour, attendees must bring current picture identification, such as a driver's license or passport.
- Proposers are requested to limit the number of attendees to **no more than three people** per business.