



CITY OF HOUSTON

Sylvester Turner

Mayor



HOUSTON AIRPORT SYSTEM

George Bush Intercontinental ~ William P. Hobby ~ Ellington Airport

Mario C. Diaz
Director of Aviation

July 21, 2022

SUBJECT: Letter of Clarification No. 4

REFERENCE: Request for Competitive Sealed Proposal (CSP) Passenger Loading Bridges Replacement and Maintenance at IAH & HOU; Solicitation No. HJA-HASPLB-2022-016; Project No. 946A & 946B

To: All Prospective Respondents:

This Letter of Clarification (LOC) is issued for the following reasons:

I. **Replace** Revised Attachment C – Pricing that includes an additional tab for unit pricing of additional bridges and the inclusion of the permit fee amount.

II. **To Respond to Questions**

1. **Question:** In the “Letter of Clarification No. 2” the City responded to contractual terms related questions (such as a cap on liquidated damages) by stating “Contract Negotiations for any terms will be based on the contract as a whole.” In which case, is it the City’s intent to discuss and/or negotiate the terms and conditions after awardee(s) have been selected?

Response: Negotiations will take place after shortlisted firms have been selected.

2. **Question:** Is the required maintenance DAILY? MONTHLY? QUARTERLY? YEARLY? What maintenance activities do each of the required maintenance inspections require? Does the maintenance scope require us to supply parts? Would the parts be paid for by the airport? How? If not the airport, then who pays for parts? Again, there is simply not enough for us to formulate a basic understanding of the maintenance requirements so that we may quote it.

Response: The required maintenance activities and schedule are determined by the various equipment O&M requirements. Please refer to the Aircraft Support Scope of Services (Basic Services) Document as well as the associated appendices for clarification (attached).

July 21, 2022

CSP Passenger Loading Bridges Replacement and Maintenance at IAH & HOU

Solicitation No. HJA-HASPLB-2022-016

Project No. 946A & 946B

When issued, a Letter of Clarification (LOC) shall automatically become part of the solicitation documents and shall supersede any previous specification(s) and/or provision(s) in conflict with the LOC. The LOC will be incorporated into the Agreement as applicable. It is the responsibility of the respondents(s) to ensure that it has obtained all such LOC(s). By submitting a response on this project, respondents shall be deemed to have received all LOC(s) and to have incorporated them into their submittal.

If further clarification is needed regarding this solicitation, please contact Jorge Ardines, Sr. Procurement Specialist, via email at jorge.ardines@houstontx.gov.

DS
DE

DocuSigned by:
Cathy Vander Plaats
02232028DE99414...

DS
AO

Cathy Vander Plaats
Aviation Procurement Officer
Houston Airport System

cc: Alfredo Oracion
Dallas Evans
Solicitation File

- Attachments:
1. Revised Attachment C - Pricing
 2. Aircraft Support Scope of Services
 3. Appendix Aircraft Support

TOTAL BID PRICE (HOU + IAH): \$ _____

(Add Totals for Stipulated Price, Base Unit Price, Extra Unit Price, Cash Allowance, and All Alternates, if any)

SIGNATURES: By signing this Document, I agree that I have received and reviewed all Addenda and considered all costs associated with the Addenda in calculating the Total Bid Price.

Bidder: _____
(Print or type full name of your proprietorship, partnership, corporation, or joint venture.*)

** By: _____
Signature Date

Name: _____
(Print or type name) Title

Address: _____
(Mailing)

(Street, if different)

Telephone and Fax Number: _____
(Print or type numbers)

* If Bid is a joint venture, add additional Bid Form signature sheets for each member of the joint venture.

** Bidder certifies that the only person or parties interested in this offer as principals are those named above. Bidder has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding.

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

Footnotes for Tables B through E:

- (1) Fixed Unit Price determined prior to Bid. Cannot be adjusted by the Bidder.
- (2) Minimum Bid Price determined prior to Bid. Can be increased by the Bidder, but not decreased, by crossing out the Minimum and inserting revised price on the line above. **Cannot** be decreased by the Bidder.
- (3) Maximum Bid Price determined prior to Bid. Can be decreased by the Bidder, but not increased, by crossing out the Maximum and inserting revised price on the line above. A Bid that increases the Maximum Bid Price may be found non-
- (4) Fixed Range Bid Price determined prior to Bid. Unit Price can be adjusted by Bidder to any amount within the range defined by crossing out prices noted and noting revised price on the line above.

ATTACHMENT C - PRICING

Houston Airport System (HAS)
 William P. Hobby Airport (HOU)
 George Bush Intercontinental Airport (IAH)
 Passenger Loading Bridge Replacement Project
 HAS PN946A IAH and PN946B HOU

Preliminary Bid Price Form
 Date: XXXXXXXXXXXXX
 Prepared By: Jacobs Engineering Group Inc., in
 association with Halford Busby
 Revised: 7/21/2022

Houston Airport Systems reserves the right to award HOU scope separately from IAH scope and does not guarantee either combined airport nor maintenance contract award.

BID SUMMARY	AMOUNT
Base Bid Schedule A - Total	\$ -
Base Bid Schedule A1 Demolition / Installation - Total	\$ 21,122.34
Additive Alternate A - Total	\$ -
Base Bid Schedule B - Total	\$ -
Base Bid Schedule B1 Demolition / Installation - Total	\$ 21,669.00
Base Bid Schedule C - Total	\$ -
Additive Alternate D - Total	\$ -
TOTAL ALL BID ITEMS	\$ 42,791.34
Economy of Scale Discount if Awarded all Components	\$ -
BID TOTAL	\$ 42,791.34

Houston Airport System (HAS)
 William P. Hobby Airport (HOU)
 George Bush Intercontinental Airport (IAH)
 Passenger Loading Bridge Replacement Project
 HAS PN946A IAH and PN946B HOU

Preliminary Bid Price Form

Date: XXXXXXXXXXXX
 Prepared By: Jacobs Engineering Group Inc., in association with Halford Busby
 Revised: 1/0/1900

Houston Airport Systems reserves the right to award HOU scope separately from IAH scope and does not guarantee either combined airport nor maintenance contract award.

Base Bid Schedule A									
William P. Hobby Airport (HOU) - PLB, GPU, AND PCA Equipment (Gates 28, 29, 30, 31, 32) - FY 2022									
Line No.	Section	Description	Unit	Quantity	Unit Price (Ea.)	Annual Escalation (%)	Total Unit Price	Total Bid Price	
A-00	34 77 13	FY 2022 - HOU - Provide PLB, GPU, Potable Water, and PCA - Five Gates					0%		
A-01	34 77 13	PLB A3-58/116 or TB 35.0/17.5-3	Ea.	1	\$ -	\$ -	\$ -	\$ -	
A-02	34 77 13	PLB A3-61/127 or TB 39.0/19.0-3	Ea.	3	\$ -	\$ -	\$ -	\$ -	
A-03	34 77 13	PLB A3-65/133 or TB 43.0/20.5-3	Ea.	1	\$ -	\$ -	\$ -	\$ -	
A-04	34 77 13	GPU 90 KVA Model	Ea.	5	\$ -	\$ -	\$ -	\$ -	
A-05	34 77 13	PCA Class III	Ea.	5	\$ -	\$ -	\$ -	\$ -	
A-06								Base Bid Schedule A - Total	\$ -

Base Bid Schedule A1 Demolition / Installation									
William P. Hobby Airport (HOU) - PLB, GPU, AND PCA Demo / Install (Gates 28, 29, 30, 31, 32) - FY 2022									
Line No.	Section	Description	Unit	Quantity	Unit Price (Ea.)	Annual Escalation (%)	Total Unit Price	Total Bid Price	
A1-00		FY 2022 - HOU - PLB, GPU, Potable Water, and PCA Demo / Install - Five Gates					0%		
A1-01	22 00 00	Route Condensate from PC Air Unit Back to Existing Drain	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-02	22 00 00	Reestablish Potable Water Service	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-03	26 00 00	Three new Disconnect Switches: (1) 400A/225F/3P, (1) 200A/200F/3P, (1) 30A/20F/3P	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-04	26 05 00	Demo Disconnect Switch Serving 400HZ GPU and PLB, Existing Circuit to be made safe for Reconnection to New Disconnect Switch	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-05	26 05 00	Demo Disconnect Switch Serving PCA, Existing Circuit to be made safe for Reconnection to New Disconnect Switch	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-06	26 05 00	Demo Disconnect Switch Serving Potable Water Cabinet, Existing Circuit to be made safe for Reconnection to New Disconnect Switch	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-07	34 77 13	Passenger Loading Bridge and all Gate Equipment to be Removed and Replaced w/ New - Labor (10.8%)	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-08	DIV 01	General Conditions	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-09	DIV 01	Contractor Fees	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-10	DIV 01	Insurance	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-11	DIV 01	Maintenance of Traffic	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-12	DIV 01	Salvage	Ls.	1	\$ -	\$ -	\$ -	\$ -	
A1-13	DIV 01	Permit	Ls.	1	\$ 21,122	\$ -	\$ 21,122	\$ 21,122	
A1-14								Base Bid Schedule A1 Demolition / Installation - Total	\$ 21,122

Additive Alternate A								
William P. Hobby Airport (HOU) - Gate Equipment Replacement (Electrical Improvements - Contingency) - FY 2022								
Line No.	Section	Description	Unit	Quantity	Unit Price (Ea.)	Annual Escalation (%)	Total Unit Price	Total Bid Price
ALT-A-00		FY 2022 - HOU - Additive Alternate A (Electrical Improvements - Contingency)				0%		
ALT-A-01	26 00 00	Remove and Replace 400HZ GPU 150A Circuit, includes cleaning conduits	Ls.	1	\$ -	\$ -	\$ -	\$ -
ALT-A-02	26 00 00	Remove and Replace PLB 60A Circuit, includes cleaning conduits	Ls.	1	\$ -	\$ -	\$ -	\$ -
ALT-A-03	DIV 01	Contractor Fees	Ls.	1	\$ -	\$ -	\$ -	\$ -
ALT-A-04	Additive Alternate A - Total							\$ -

BID SUMMARY	
Base Bid Schedule A - Total	\$ -
Base Bid Schedule A1 Demolition / Installation - Total	\$ 21,122
Additive Alternate A - Total	\$ -
TOTAL ALL BID ITEMS	\$ 21,122

Houston Airport System (HAS)
 William P. Hobby Airport (HOU)
 George Bush Intercontinental Airport (IAH)
 Passenger Loading Bridge Replacement Project
 HAS PN946A IAH and PN946B HOU

Preliminary Bid Price Form

Date: XXXXXXXXXXXXX
 Prepared By: Jacobs Engineering Group Inc., in association with Halford Busby
 Revised: 1/0/1900

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Base Bid Schedule B									
George Bush Intercontinental Airport (IAH) - PLB, GPU, POTABLE WATER, AND PCA Equipment (Terminal A - Gates A10, A12, A15, A27, A30) - FY 2022									
Line No.	Section	Description	Unit	Quantity	Unit Price (Ea.)	Annual Escalation (%)	Total Unit Price	Total Bid Price	
B-00	34 77 13	FY 2022 - IAH - Provide PLB, GPU, Potable Water, and PCA - Terminal A Five Gates					0%		
B-01	34 77 13	PLB A3-61/127 or TB 39.0/19.0-3	Ea.	5	\$ -	\$ -	\$ -	\$ -	
B-02	34 77 13	GPU 90 KVA Model	Ea.	5	\$ -	\$ -	\$ -	\$ -	
B-03	34 77 13	PCA Class III	Ea.	5	\$ -	\$ -	\$ -	\$ -	
B-04	34 77 13	Potable Water Cabinet	Ea.	5	\$ -	\$ -	\$ -	\$ -	
B-05		Base Bid Schedule B - Total						\$ -	-

Base Bid Schedule B1 Demolition / Installation									
George Bush Intercontinental Airport (IAH) - PLB, GPU, AND PCA Demo / Install (Terminal A - Gates A10, A12, A15, A27, A30) - FY 2022									
Line No.	Section	Description	Unit	Quantity	Unit Price (Ea.)	Annual Escalation (%)	Total Unit Price	Total Bid Price	
B1-00		FY 2022 - IAH - PLB, GPU, Potable Water, and PCA Demo / Install - Terminal A Five Gates					0%		
B1-01	34 77 13	Passenger Loading Bridge and all Gate Equipment to be Removed and Replaced w/ New - Labor (10.8%)	Ls.	1	\$ -	\$ -	\$ -	\$ -	
B1-02	DIV 01	General Conditions	Ls.	1	\$ -	\$ -	\$ -	\$ -	
B1-03	DIV 01	Contractor Fees	Ls.	1	\$ -	\$ -	\$ -	\$ -	
B1-04	DIV 01	Insurance	Ls.	1	\$ -	\$ -	\$ -	\$ -	
B1-05	DIV 01	Maintenance of Traffic	Ls.	1	\$ -	\$ -	\$ -	\$ -	
B1-06	DIV 01	Salvage	Ls.	1	\$ -	\$ -	\$ -	\$ -	
B1-07	DIV 01	Permit	Ls.	1	\$ 21,669	\$ -	\$ 21,669	\$ 21,669	
B1-08		Base Bid Schedule B1 Demolition / Installation - Total						\$ 21,669	\$ 21,669

BID SUMMARY	
Base Bid Schedule B - Total	\$ -
Base Bid Schedule B1 Demolition / Installation - Total	\$ 21,669
TOTAL ALL BID ITEMS	\$ 21,669

Houston Airport System (HAS)
 William P. Hobby Airport (HOU)
 George Bush Intercontinental Airport (IAH)

Preliminary Bid Price Form

Passenger Loading Bridge Replacement Project

Date: XXXXXXXXXXXXX

Prepared By: Jacobs Engineering Group Inc., in association with
 Halford Busby

HAS PN946A IAH and PN946B HOU

Revised:

1/0/1900

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Base Bid Schedule C					
Aircraft Support Systems 25-Year Operation and Maintenance Services (IAH 16 PLBs)					
Line No.	Section	Description	Unit	Quantity	Total Bid Price
OM-00		FY 2022 - FY 2046 - Aircraft Support System 25-Year O&M (IAH 16 Gates)			
OM-01	34 77 13	FY 2022 O&M	CFF	1	\$ -
OM-02	34 77 13	FY 2023 O&M	CFF	1	\$ -
OM-03	34 77 13	FY 2024 O&M	CFF	1	\$ -
OM-04	34 77 13	FY 2025 O&M	CFF	1	\$ -
OM-05	34 77 13	FY 2026 O&M	CFF	1	\$ -
OM-06	34 77 13	FY 2027 O&M	CFF	1	\$ -
OM-07	34 77 13	FY 2028 O&M	CFF	1	\$ -
OM-08	34 77 13	FY 2029 O&M	CFF	1	\$ -
OM-09	34 77 13	FY 2030 O&M	CFF	1	\$ -
OM-10	34 77 13	FY 2031 O&M	CFF	1	\$ -
OM-11	34 77 13	FY 2032 O&M	CFF	1	\$ -
OM-12	34 77 13	FY 2033 O&M	CFF	1	\$ -
OM-13	34 77 13	FY 2034 O&M	CFF	1	\$ -
OM-14	34 77 13	FY 2035 O&M	CFF	1	\$ -
OM-15	34 77 13	FY 2036 O&M	CFF	1	\$ -
OM-16	34 77 13	FY 2037 O&M	CFF	1	\$ -
OM-17	34 77 13	FY 2038 O&M	CFF	1	\$ -
OM-18	34 77 13	FY 2039 O&M	CFF	1	\$ -
OM-19	34 77 13	FY 2040 O&M	CFF	1	\$ -
OM-20	34 77 13	FY 2041 O&M	CFF	1	\$ -
OM-21	34 77 13	FY 2042 O&M	CFF	1	\$ -
OM-22	34 77 13	FY 2043 O&M	CFF	1	\$ -
OM-23	34 77 13	FY 2044 O&M	CFF	1	\$ -
OM-24	34 77 13	FY 2045 O&M	CFF	1	\$ -
OM-25	34 77 13	FY 2046 O&M	CFF	1	\$ -
OM-26				Base Bid Schedule C - Total	\$ -

Houston Airport System (HAS)
 William P. Hobby Airport (HOU)
 George Bush Intercontinental Airport (IAH)
 Passenger Loading Bridge Replacement Project
 HAS PN946A IAH and PN946B HOU

Preliminary Bid Price Form

Date: XXXXXXXXXXXX
 Prepared By: Jacobs Engineering Group Inc., in association with Halford Busby
 Revised: 1/0/1900

Houston Airport Systems reserves the right to award HOU scope separately from IAH scope and does not guarantee either combined airport nor maintenance contract award.
 * HAS reserves the right to purchase an additional quantity of the materials listed below at the escalated unit price for a period of five (5) years. Installation may be negotiated via Change Order.

Additive Alternate D								
PLB, GPU, POTABLE WATER, AND PCA Equipment Only - FY 2022								
Line No.	Section	Description	Unit	Quantity *	Unit Price (Ea.)	Annual Escalation (%)	Total Unit Price	Total Bid Price
ALT-D-00	34 77 13	FY 2022 - Provide PLB, GPU, Potable Water, and PCA		Quantity 1 to 10		0%		
ALT-D-01	34 77 13	PLB A3-61/127 or TB 39.0/19.0-3	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D-02	34 77 13	PLB A3-65/133 or TB 43.0/20.5-3	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D-03	34 77 13	GPU 90 KVA Model	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D-04	34 77 13	PCA Class III	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D-05	34 77 13	Potable Water Cabinet	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D1-00	34 77 13	FY 2022 - Provide PLB, GPU, Potable Water, and PCA		Quantity 11 to 20		0%		
ALT-D1-01	34 77 13	PLB A3-61/127 or TB 39.0/19.0-3	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D1-02	34 77 13	PLB A3-65/133 or TB 43.0/20.5-3	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D1-03	34 77 13	GPU 90 KVA Model	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D1-04	34 77 13	PCA Class III	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D1-05	34 77 13	Potable Water Cabinet	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D2-00	34 77 13	FY 2022 - Provide PLB, GPU, Potable Water, and PCA		Quantity 21+		0%		
ALT-D2-01	34 77 13	PLB A3-61/127 or TB 39.0/19.0-3	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D2-02	34 77 13	PLB A3-65/133 or TB 43.0/20.5-3	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D2-03	34 77 13	GPU 90 KVA Model	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D2-04	34 77 13	PCA Class III	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D2-05	34 77 13	Potable Water Cabinet	Ea.	0	\$ -	- \$	- \$	- \$
ALT-D-06							Additive Alternate D - Total	\$ -
BID SUMMARY								
							Additive Alternate D - Total	\$ -
							TOTAL ALL BID ITEMS	\$ -

EXHIBIT "B"
SCOPE OF SERVICES

1.0 PURPOSE

1.1 The primary purpose of this contract shall be to provide the Aircraft Support Systems Operation and Maintenance Services in support of the HAS Mission and Vision Statements to establish the City of Houston as a 5-Star global service gateway. Activities conducted under this contract should be in support of this goal.

1.2 To achieve our overall purposes, the following core values have been adopted:

1.2.1 MISSION

1.2.1.1 We exist to connect the people, businesses, cultures and economies of the world to Houston.

1.2.2 VISION

1.2.2.1 Establish Houston as a five-star global air service gateway where the magic of flight is celebrated.

1.2.3 STRATEGIC PRIORITIES

- 1.2.3.1 Make our passenger happy;
- 1.2.3.2 Achieve "opening day fresh" condition of our airports;
- 1.2.3.3 Build the platforms for future success;
- 1.2.3.4 Invest in our partnerships and our employees;

1.2.4 CORE VALUES (R.I.S.E.)

- 1.2.4.1 Relationships: We work together with integrity and treat every individual with courtesy and respect.
- 1.2.4.2 Innovation: We have the courage and willingness to consider new and unconventional ways of thinking.
- 1.2.4.3 Service: We WOW our passengers through a "can do" attitude and respond quickly to meet and exceed their expectations.
- 1.2.4.4 Excellence: We strive for quality and skillful execution without compromise.

1.3 FACILITIES INCLUDED

1.3.1 George Bush Intercontinental Airport/Houston (IAH), to include all aprons on the airport property. Refer to Appendix "I" and "II" for equipment lists and Appendix "I" for aerial maps showing the respective gate locations.

1.3.2 In the event of an Emergency/Operational Needs, HAS reserves the right to temporarily reassign Ground Support Equipment to HOU and EFD at no additional cost to the City.

1.4 WORK INCLUDED

- 1.4.1 Basic Services
- 1.4.2 Operations & Maintenance (O & M Services)
 - 1.4.2.1 Best Management Practices
 - 1.4.2.2 Industry Standard
 - 1.4.2.3 Reactive
- 1.4.3 Other Work Services
- 1.4.4 Service Life Renewal

1.5 At a minimum, the Contractor shall provide the following services, but are not limited to:

- 1.5.1 The Contractor shall provide complete maintenance of existing aircraft support systems as described in Appendix "I", *Aircraft Support System Description*, and shall also provide maintenance of additional aircraft support systems as they are released to the contractor following construction. The Contractor shall provide support equipment as defined in Appendix "II" *Support Equipment Requirements*. The Contractor shall utilize the city of Houston's *Enterprise Asset Management Systems (EAMS)*, as described in Appendix "III." The Agreement pricing shall be a monthly fee for each functional element as written in the executed agreement.
- 1.5.2 Must possess adequate communication and English language skills to accurately provide information to the public and to respond to routine and emergency communications by telephone or radio. The Contractor shall be responsible for the conduct of all the Contractor's personnel at all times.
- 1.5.3 Contractor's personnel shall be properly uniformed, displaying their company logo, wearing non-slip shoes, clean and neat in appearance while on duty, and shall deal with members of the public in a prompt, polite and business-like manner.
- 1.5.4 The Contractor shall remove from the Airport work site any Contractor's employee on or invited by it, onto the Airport, when the Director notifies the Contractor in writing that such person:
 - 1.5.4.1 It is, in the sole opinion of the Director, incompetent, unfit or disorderly; or
 - 1.5.4.2 has used profane or abusive language or behavior towards any person at the Airport. Such person shall not be reassigned to Airport work by the Contractor, except with the express written consent of the Director.
- 1.5.5 The Contractor shall at all times provide properly trained and competent personnel in the number and classifications necessary to perform its services in an efficient manner and in accordance with the Contractor's documents.

TECHNICAL SPECIFICATIONS REQUIREMENTS

1.0 BASIC SERVICES

1.1 AIRCRAFT SUPPORT SYSTEMS - BEST MANAGEMENT PRACTICES, INDUSTRY STANDARD, AND REACTIVE SERVICES

- 1.1.1 Basic Services shall include, but are not limited to, all management, supervision, labor, parts, materials and consumables, equipment, diagnostics, lubricants, tools, instruments, reports, transportation, insurance, sub-contracts, bonds, incidentals, and all such other related services and such other associated electrical, mechanical, pneumatic, hydraulic services for equipment and appurtenances, as required, to maintain safety, maximum operational efficiency, and to ensure units are maintained in acceptable condition throughout the Term of the Agreement.
- 1.1.2 The Contractor shall provide complete Preventative Maintenance (PM), Predictive Maintenance (PdM) and Corrective Maintenance (CM) in accordance with the approved Original Equipment Manufacturer (OEM) maintenance procedures, codes, and acceptable maintenance practices in order to maintain aircraft support systems in acceptable condition. Maintenance shall include regular inspections, tests, scheduled routine services, detection and correction of potential failures, replacement of parts that fail due to improper maintenance or lack of maintenance, parts cleaning, lubricating, and adjusting of systems as required to accomplish the Work.
- 1.1.3 Basic Services include replacement of failed or defective equipment and components with the exception of failures resulting from Force Majeure and those items covered by Other Work/Services.
- 1.1.4 Equipment and components damaged by Third Party, resulting in a replacement cost at or below the threshold of \$6,500, will be covered under Basic Services at no additional cost to the City.
- 1.1.5 Basic Services includes a Warranty Administration Program for parts and equipment. If the Contractor provides repair parts on equipment under warranty, the Contractor will receive the benefit of the warranty when repair is subject to reimbursement from third party providing the warranty coverage.
- 1.1.6 Contractor shall maintain warranty records and provide reports in a format acceptable to the Director utilizing HAS EAMS.
- 1.1.7 The Contractor's response time to any urgent or emergency defect or malfunction that impacts the general public, renders the system incapable of performing at its acceptable normal operating level, or to circumstances that affect passenger safety shall be 5 minutes or less.
- 1.1.8 The Contractor's response time to other than urgent or emergency defect or malfunction that impacts the general public shall be 15 minutes or less.
- 1.1.9 The Contractor shall provide CM and PM immediately after its Phase-In, on the date specified in the Notice to Proceed. Proposed procedures must be submitted to HAS for approval within 30 days after the Agreement Start Date. Within 30 days of receipt of the Notice to Proceed, the Contractor shall:
 - 1.1.9.1 Conduct a Base Line Audit of the aircraft support systems to determine that the aircraft support systems (excluding expendables) are up to industry standard and within OEM's tolerances. Any deficiencies which detract from equipment

reliability must be summarized in a report to the Director and documented by individual deficiency corrective maintenance work order in the HAS EAMS.

- 1.1.9.2 Analyze existing PM program and review OEM requirements.
- 1.1.9.3 Develop and submit routine PM schedules in accordance with OEM recommendations, pertinent installation documentation, existing Operation and Maintenance Manuals, OSHA requirements.
- 1.1.9.4 At a minimum, PM schedules must be in accordance with OEM instructions contained in applicable manufacturers' manuals for individual items of equipment, including the latest OEM technical/user manuals, service bulletins, service advisories, product/service information updates, and all other such OEM published information pertaining to the maintenance and operation of aircraft support systems and equipment.
- 1.1.9.5 The Contractor shall deliver written weekly schedules of planned PMs to HAS one week in advance of schedule.

1.2 AIRCRAFT SUPPORT SYSTEMS

- 1.2.1 Gates maintained under the Agreement shall include, but are not limited to passenger boarding bridges, extension tunnels, ground power systems, preconditioned air systems, guide-in equipment, potable water equipment, portable turbo-way ramp, roof-top air-conditioning units, and other ancillary equipment.
- 1.2.2 Gates are inclusive of the building glycol system and related piping, central GPU system and related cabling, all related parts, systems, and accessories.
 - 1.2.2.1 Maintenance items on Gates include, but are not limited to, mechanical, electrical, and electronic systems, engines, motors, pumps, compressors, fans, belts, cables, controls, computers, instrumentation, alarms, indicator lights, tires, wheels, frames, chassis, suspension, steering devices, drive mechanisms, bearings, seals, rollers, internal structural members, roof panels, doors, and flooring up to the point where the device is attached to a Terminal structure or to an Aircraft.
 - 1.2.2.2 Electrical systems include power circuit breakers, power and instrument transformers, surge protection devices, relays, and secondary breakers serving motor controls up to but excluding main disconnects in primary switchboards serving motor controls and starters.
- 1.2.3 The Contractor shall ensure its delivery of potable water at each gate and support equipment meets federal standards set forth in the Safe Drinking Water Act (SDWA) of 1974, and the Texas Commission on Environmental Quality (TECQ) Title 30, Part 1, Chapter 290, Subchapter D, including but not limited to Rule 290.44 (Water Distribution) and rule 290.46 (Minimum Acceptable Operating Practices for Public Drinking Water Systems) as amended from time to time. Contractor shall perform a Potable Water System analysis test at each gate during 30-day Phase-in period, every six months thereafter, and additional testing at request of Director at no cost to HAS. Contractor shall

provide copies of the results to HAS.

- 1.2.4 The Contractor shall perform an annual backflow preventer test on all potable water cabinets within the Agreement.
- 1.2.5 The Contractor shall perform a Load Bank Test on 400 Hz. and 28 Volt Power Systems at each gate during 30-day Phase-in period and every 6 months thereafter. Contractor shall submit a report of the results to HAS.
 - 1.2.5.1 The Contractor shall ensure each 400 Hz and 28 Volt power systems produces stable and clean power within OEM specified tolerances for Voltages and Amperages at each test load.
 - 1.2.5.2 Minimum test loads must include 24KW, 48KW, 72KW, 96KW, and 112KW for 400 Hz systems and 300 amperes for the 28 Volt systems. Tests must yield data on Voltage, Amperages, and Hz for each test load.
- 1.2.6 Load Bank test equipment shall be dedicated to HAS 24/7. IAH shall have (1) dedicated 400 HZ and (1) dedicated 28 Volt load bank testers.
- 1.2.7 PBB Cleaning **Minor corrections will be made to add cleaning of Bio-hazards**
 - 1.2.7.1 The Contractor shall thoroughly wash the exterior of all passenger loading bridge per OEM standards. Power washing may be requested by Director at no additional cost to the City.
 - 1.2.7.2 Contractor shall clean all interior passenger loading bridge areas according to a schedule approved by the Director.
 - 1.2.7.3 Daily-Walk bridges and pick-up trash, clear console of debris, vacuum if required, ensure presentable to traveling public/Air carriers. Weekly-vacuum wipe/clean walls and console, mop rubber mat floor, clean window glass and doors, clean walls and handrails, clean interior & exterior lightening fixtures; AC vents and exhaust vents.
 - 1.2.7.4 Contractor shall clean trash out of the PCA hose baskets weekly (excluding Reactive Services LOS).
- 1.2.8 The Contractor shall also maintain portable ramp(s) and provide a complete PM and inspection.

1.3 AIRCRAFT SUPPORT SERVICES

- 1.3.1 The Contractor shall furnish, maintain and operate aircraft support services equipment as described in Appendix "I" on a monthly rate shown on Exhibit B Fee Schedule.
- 1.3.2 Specified support equipment shall be dedicated 24/7.
- 1.3.3 Support Equipment PM & EAMS.
 - 1.3.3.1 The Contractor shall perform preventive maintenance on all aircraft support

services equipment in accordance with OEM PM Schedules and provide maintenance records to the Director on approved media.

- 1.3.3.2 The Contractor shall utilize the Houston Airport's Enterprise Asset Management System (EAMS) as described in Appendix "III" to develop the PM Programs, track maintenance records, and generate reports.

1.4 OPERATION AND MAINTENANCE MANUALS

- 1.4.1 HAS will provide the Contractor with its available manuals. The Contractor shall update technical literature throughout the Term of the Agreement to reflect manufacturer's updates and changes or additions to the systems. The Contractor shall be responsible for all technical literature, etc. required to perform the work.

1.5 PERSONNEL REQUIREMENTS

- 1.5.1 Staffing shall provide the appropriate number of supervised, trained and skilled personnel required to operate and maintain the Aircraft Support Systems as outlined in the scope of work subject to approval by the Director.
- 1.5.2 All personnel assigned by the Contractor to perform in accordance with the terms of the Agreement will not be assigned to any other projects, Other Work Services (OSR), or contracts managed by the Contractor, unless approved in writing by HAS.
- 1.5.3 Staffing shall include Contractor's staff, management, administrative, and technical services and functions necessary for effective and timely accomplishment of the required services.
- 1.5.4 The following job descriptions are intended to address minimum key personnel qualifications and are not intended to establish the level of staffing needed to operate and maintain the Aircraft Support System Maintenance and Aircraft Support Operation.
- 1.5.5 Contractor shall be responsible for providing additional staffing during irregular operations and inclement weather at no additional cost to the City.

1.6 PROJECT MANAGER

- 1.6.1 Contractor shall designate in writing to the Director a Project Manager (PM) for this Agreement. Such Project Manager must be approved in writing by the Director before commencing performance herein.
- 1.6.2 Contractor shall provide a dedicated and qualified PM who shall serve as the main point of contact with HAS and shall be fully authorized by the Contractor to act for the Contractor in all matters.
- 1.6.3 The PM will be exclusively assigned to this Agreement and shall not be reassigned without prior written approval of the Director. Such approval will not be unreasonably withheld if the replacement PM has equal experience, and skilled in a like position with a contract of similar size and scope as described herein.

- 1.6.4 The PM shall be available and on-call 24 hours daily.
- 1.6.5 The PM will be physically assigned to IAH. The Project Manager will be on-site between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.
- 1.6.6 If the PM is to be temporarily off-site, the Director must be notified in writing and an acting PM identified and approved by the Director. The acting PM must be able to act for the Contractor in all matters.
- 1.6.7 The PM shall have a minimum of 10 years verifiable aircraft support experience in the maintenance and operation of related systems at the supervisory level.
- 1.6.8 The PM must manage the daily operation, direct all employees in the maintenance of the aircraft support systems, ensures appropriate staffing levels and is the direct contact for customer service issues.
- 1.6.9 The PM shall not be a working technician/mechanic.
- 1.6.10 The PM shall attend regularly scheduled and ad-hoc meetings to discuss maintenance and operation of aircraft support systems/equipment. The PM shall attend meetings with the Director within 30 minutes notice if required. PM shall prepare a typed meeting agenda covering the topics to be discussed and prepare minutes of the meeting in a form satisfactory to the Director. PM shall issue copies of the minutes to all attendees within two (2) business days following each meeting. HAS will approve the minutes prior to distribution by the Contractor.

1.7 ADMINISTRATIVE TASKS

- 1.7.1 As part of O&M Services, Contractor shall perform certain administrative tasks which include implementation, operation, and maintenance of data systems, radio communications, security and badging requirements, preparation of work orders, generating reports, attending meetings, administering a quality control program, and performing certain housekeeping duties.

1.7.2 Other Personnel Requirements:

Administrative Clerks	Assoc. Degree, or equal 6-months related experience.	Routine office duties, maintain HAS EAMS, O & M monthly meeting minutes, required reports, inventory reports, etc.
Lead Field Service Technicians	Associate Degree, or equal 1-year lead/supervisory experience.	Supervisor in charge of shift maintains staffing levels. Evaluates job performance, maintains records, directs/redirects daily activities.
Minor corrections will be made to differentiate Supervisor and Lead Job descriptions		
Supervisor – Aircraft Support	Associate Degree, or equal 1-year lead/supervisory experience.	Supervisor in charge of shift maintains staffing levels. Evaluates job performance, maintains records, directs/

		redirects daily activities.
Field Service Technicians	High School Diploma, or GED Driver's License. Minimum 2 years documented training and /or job experience in welding, machinery, electrical, pneumatics and or motor control troubleshooting pertaining to aircraft support. Must maintain any and all applicable certifications and licenses for the area assigned.	Repair and maintenance of aircraft support equipment.
Support Equipment Agents	High School Diploma or GED, 1-3 months related experience Commercial Driver's License DOT Medical Certificate.	Operate and maintain vehicles. Assist Passengers, specialized training in operating passenger bus(es) and mobile stairs.
Ground Service Equipment (GSE) Mechanic	High School Diploma or GED.	Repair and Maintain GSE equipment.
Plant Mechanic/ HVAC Refrigeration	High School Diploma, or GED and Minimum 5 years documented training and /or job experience in the areas of HVAC repair with direct knowledge and experience of glycol chillers and its control systems, with a universal EPA certification. Must maintain any and all applicable certifications and licenses for the area assigned.	Performs preventative and corrective maintenance of glycol chiller plant and all Passenger Boarding Bridge HVAC systems.

1.7.3 Should HAS determine that Contractor is not meeting its responsibilities under the Agreement due to the number or qualifications of on-site personnel, HAS may request that the Contractor increase the number of on-site personnel in order to meet all obligations specified hereunder, at no additional cost to the City. Upon written notification from HAS, Contractor shall be given two calendar days to assess problems and one additional day to formulate a resolution of the problem. Subsequently, if HAS determines that Contractor's responsibilities under the Agreement can only be met with additional on-site staff, Contractor shall provide such staff at no additional cost to the City. Contractor's personnel shall work additional hours as required to meet Contractor's obligations under the Agreement at Contractor's expense.

1.8 EMPLOYEE DRIVER LICENSES AND RECORDS

1.8.1 Contractor employees operating company provided vehicles or equipment are required to maintain an excellent driving record. Must obtain and maintain a Texas Class "C" driver's license and Airport Identification Badge at all times during their employment at the Airport. Drivers having a driving record unacceptable to the City's Insurance Underwriter will be assigned by the Contractor to a non-driving job if available.

1.9 TRAINING

1.9.1 Contractor shall implement training program with the following guidelines:

- 1.9.1.1 Contractor shall provide a description of Contractor's employee training program and list the training and skills development considered to be most important for employees assigned to this project.
- 1.9.1.2 Training of personnel shall be at the Contractor's sole expense and shall include the maintenance and repair procedures for systems and equipment, record keeping procedures, procurement procedures, and operation and maintenance of the EAMS. Training verification is to be provided in a monthly report.
- 1.9.1.3 The Contractor shall develop procedures and checklists to ensure all personnel, including newly hired workers, are familiar with the work location.
- 1.9.1.4 The Contractor shall provide initial orientation to all new hire employees, regardless of job classification. The Contractor shall provide annual HAZCOM training and annual Dangerous Goods Awareness training for all employees.

1.10 INCLUSION/EXCLUSION

- 1.10.1 From time to time throughout the Term of the Agreement, Director may, by written notice to the Contractor, increase or decrease the existing aircraft support systems, and support services equipment covered by the Agreement. Any such written notice shall take effect on the date stated in the notice from Director.
- 1.10.2 Upon beneficial use and/or issuance of a certificate of substantial completion and the equipment is placed into revenue service, the Contractor shall take full responsibility for equipment maintenance and manage any warranties in effect. The Contractor shall inspect the new and renovated facilities and submit any deficiencies to HAS.

1.11 QUALITY

- 1.11.1 Contractor shall implement quality programs that encompass the following:
 - 1.11.1.1 Managing and resolving complaints, including those of HAS.
 - 1.11.1.2 Rectifying or minimizing recurrences of quality problems.
 - 1.11.1.3 Continuous improvement process.
 - 1.11.1.4 Maintaining consistent quality of service across all locations.
 - 1.11.1.5 Tracking and reporting mechanisms to document consistent service and quality.

1.12 SPECIAL AGREEMENT PROVISIONS

- 1.12.1 The following provisions shall be included in the Agreement.
 - 1.12.1.1 The contractor shall provide an annual report which identifies system modifications, enhancements, redesigns, and/or replacements of any Aircraft Services components that may be desirable due to technological

advancements.

- 1.12.1.2 At a minimum this report shall contain a description of component to be replaced.
- 1.12.1.3 Reason for replacement.
- 1.12.1.4 Description of new components.
- 1.12.1.5 Advantages for replacement.
- 1.12.1.6 Cost to replace the component.
- 1.12.1.7 Time required to complete replacement.

1.13 COORDINATE PERFORMANCE

1.13.1 HAS Contact

The Contractor shall coordinate its performance with such person(s) as the Director or the Director's designee(s) in writing. The Director's shall keep said person(s) currently advised of developments relating to the performance of the scope of work within the Agreement, and the Contractor shall at all appropriate times advise and consult with the Director or designee(s) as determined by the Director.

1.13.2 Pre-Performance Conference

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

- 1.13.2.1 Phase-in and Start-up schedules.
- 1.13.2.2 Agreement administration.
- 1.13.2.3 Facilities utilization.
- 1.13.2.4 Channels of communication.
- 1.13.2.5 Review of key personnel resumes and certifications.
- 1.13.2.6 Organization and function charts reflecting the line of management authority.

1.13.2.7 Procedures to be used to ensure Agreement requirements are met (Quality Control Program).

1.13.2.8 Transition Planning including the existing EAMS and Spare Parts Management.

1.14 COORDINATION MEETINGS

1.14.1 Throughout the Agreement Term and any extensions hereto, the Contractor shall meet with the Director to identify and resolve performance issues. Meetings will be scheduled on a monthly basis or as determined by the Director. Notice of any such meeting may be given by the Director to the Contractor either orally or in writing and will designate the time, date, location, the Contractor attendees, and general purpose. The Contractor's designated attendees shall be present at any such performance meeting for its duration and shall prepare a typed agenda covering the topics to be discussed; keep minutes of the meetings in a form satisfactory to the Director; and issue copies of the minutes to all attendees within two business days of each meeting.

1.15 CONTRACTOR'S (SUCCESSOR) PHASE-IN

1.15.1 Contractor shall implement their approach and methodology for the Phase-In transition.

1.15.2 In order to accomplish a smooth and successful transition of operations and maintenance services and at no extra charge to the City, the Contractor shall provide Phase-in services for up to thirty (30) days prior to Agreement expiration.

1.15.3 Contractor's Phase-In period begins upon receipt of a "Start Phase-in Notice" from the Director and continues until receipt of "official Notice to Proceed" (Start Date of the Agreement). *The "Start Phase-In Notice" is different than the official Notice to Proceed.* Contractor will have no responsibilities for operating or maintaining the equipment during the Phase-in period.

1.15.4 During the phase-in period, the successor Contractor shall have access to the facilities and areas covered by the Agreement, access to personnel, and allowed to observe all operations.

1.15.5 The incumbent Contractor will perform the duties and services listed in its Agreement during the successor Contractor's Phase-In period and will be available during the phase-in period to answer questions and resolve issues or any misunderstandings.

1.15.6 During phase-in period the successor Contractor shall provide all required deliverables listed below including but not limited to:

1.15.7 Review and verify Equipment Lists (Appendix I and II) within the first thirty (30) Phase-In days.

1.15.8 Review and verify Replacement Parts (Appendix VI) within the first thirty (30) Phase-In days.

1.15.9 Arrange to have necessary supervisory, technical, and other personnel on site to observe the operation and maintenance of the aircraft support systems.

- 1.15.10 Recruit and transfer personnel, train personnel, arrange for security badges.
- 1.15.11 Establish management procedures, set up records, ensure adequate parts, tools and equipment in place for systems maintenance.
- 1.15.12 Develop a full project schedule detailing the responsibilities of assigned personnel and submit it to the Director for approval.
- 1.15.13 Develop Preventive, Predictive and Reliability Centered Maintenance plans and submit them in an approved HAS format to the Director for approval.
- 1.15.14 Develop and submit a full cleaning schedule/programs for all equipment covered under this agreement, to include support service equipment, for Director's review and approval.
- 1.15.15 Coordinate activities with Director.
- 1.15.16 Final transition and training plan addressing the Contractor staffing strategies in determining the necessary staffing and supervision required for compliance with the specified services.
- 1.15.17 Emergency phone numbers and verification of cell phones.
- 1.15.18 Certification of all Contractor Personnel requirements and training.
- 1.15.19 Reporting and approach plans.
- 1.15.20 Inventory of supplies, materials, tools, equipment, etc., necessary to start.
- 1.15.21 Standard Operating Procedures (SOP).
- 1.15.22 Permits, licenses and certifications.
- 1.15.23 Security approval and access.
- 1.15.24 Subcontractor and Subcontractor Agreements in place.
- 1.15.25 Review historical maintenance records for systems and equipment covered by the agreement as maintained in the HAS EAMS.
- 1.15.26 The Phase-in period will end twenty-four (24) hours prior to the effective start date shown in the official Notice to Proceed, at which time the Contractor shall assume full responsibility for the operation and maintenance of the aircraft support systems and equipment. The Contractor shall be prepared to perform fully all Work services upon receipt of Notice to Proceed Letter from the Director.
- 1.15.27 Within 30 days of the start date, the Contractor shall certify to the Director in writing that 100% of the Contractor's employees (fully trained and experienced) necessary for the effective and timely accomplishment of the Contractor's obligations under this specification are in place, and all Sub-contractors, if any, necessary for the effective and timely performance of the Contractor's obligations under this specification have been

engaged by the Contractor and have commenced work under their respective Subcontracts.

- 1.15.28 The Contractor shall submit an Emergency Preparedness Operation Plan and Inclement Weather Plan that addresses the means to prevent and limit damage and ensure continued operation of the Airport during emergency situations and inclement weather such as described by Force Majeure. The Contractor's plan shall be compatible with existing HAS Emergency Operations Plans and Inclement Weather Plan.
- 1.15.29 The Emergency Response Plan and Inclement Weather Plan shall be presented to the HAS Airport Representative for approval within sixty (60) days of Agreement award. The Contractor shall review and update the Emergency Response Plan and Inclement Weather Plan as required by the HAS Representative.
- 1.15.30 Any damages or failures due to Contractor's noncompliance with the Emergency Response Plan or Inclement Weather Plan will be at Contractors expense.
- 1.15.31 Within 30 days following the completion of the phase-in period, complete an audit of the operating and maintenance conditions of all equipment covered by this agreement. Report deficiencies that effect the safe, efficient and reliable operation of the equipment to the Director in writing and document each individual deficiency by way of a work order in the HAS EAMS.

1.16 CONTRACTOR'S (INCUMBENT) PHASE-OUT

- 1.16.1 The cost for third party audits will be at the Contractor's expense. An Independent and qualified third-party agency must be selected by the Contractor and approved by HAS. All reports must be sent directly to the Contractor with copies to HAS.
- 1.16.2 Any deficiencies discovered by third party audits which are the responsibility of Contractor, must be rectified by the Contractor at no cost to the City. Correction/Work shall commence within thirty (30) working days of receipt of the notice of any such deficiency. Contractor shall provide the Director with a written explanation for such deficiency in performance and a plan to prevent future such deficiencies within fifteen (15) days of receipt of such notice.
 - 1.16.2.1 Failure of Contractor to correct deficiencies covered under the terms of the Agreement may be used by the Director as grounds for application of liquidated damages or termination of the Agreement within the meaning of the general provisions entitled "Default." Refer to Term and Termination. within the executed Agreement after award.
- 1.16.3 At 180 days prior to Agreement expiration, the Contractor shall provide a third-party performance audit at Contractor's expense. Contractor shall rectify any deficiencies in performance discovered by such audit for which Contractor is responsible under this Agreement to the Director's satisfaction at no cost to the City. Further, the Contractor shall provide the Director with a written explanation for such deficiency in performance and a plan to prevent future deficiencies with fifteen (15) days of receipt of such notice.
- 1.16.4 At 365 days prior to Agreement expiration, the Contractor shall submit a comprehensive close-out plan which will include a complete list of current activities and status, projected activities scheduled and impacts, staffing requirements, summary of the last 12 months of

Monthly Reports, and list all aircraft support systems. The listing of equipment must include identification number, description, location, model/serial number, area served, condition, and age of the equipment to the Director.

- 1.16.5 At 90 days prior to Agreement expiration, the Contractor shall certify in writing to the Director that all deficiencies have been corrected.
- 1.16.6 Equipment Condition at Expiration - Prior to expiration of the Agreement, the Contractor shall repair any equipment not in acceptable maintenance condition and perform scheduled PM work on all equipment up to the then current date in accordance with approved PM schedules.
- 1.16.7 Prior to expiration of the Agreement, the Contractor shall repair any equipment not in acceptable maintenance condition and perform scheduled PM work on all equipment up to the then current date in accordance with approved PM schedules.
- 1.16.8 In order to accomplish a smooth and successful transition of operations and maintenance services and at no extra charge to the City, the Contractor shall provide Phase-out services for up to thirty (30) calendar days following the successor's receipt of "Start Phase-in Notice" from the Director and continue until successor's receipt of "official Notice to Proceed". Phase-out orientation comprises a maximum of 30 working days, 8 hours per day for successor's personnel. Orientation includes, but is not limited to, system operations and maintenance procedures, record keeping, reports, and procurement procedures, etc. Contractor shall be totally responsible for providing the services under this Agreement during its Phase-out period. Incumbent Contractor shall cooperate with its successor Contractor in allowing as many personnel as practical to remain on the job in order to enhance the continuity and consistency of the services in the executed Agreement.
- 1.16.9 Contractor shall disclose necessary personnel records and allow its successor to conduct on-site interviews with its employees, provided Contractor obtains the consent of said employees to disclose their records and to conduct such interviews and provided such disclosure and interviews are conducted in accord with all applicable laws, statutes, rules, regulations, and ordinances which have been passed, enacted or promulgated by any governmental body having jurisdiction over such matters. The Contractor shall provide all required deliverables including, but not limited to:
 - 1.16.9.1 List of qualified employees working at the Airport.
 - 1.16.9.2 Reporting requirements.
 - 1.16.9.3 Inventory of supplies, materials, tools and equipment.
 - 1.16.9.4 Current Standard Operating Procedures.
 - 1.16.9.5 Permits, licenses, and certifications.
 - 1.16.9.6 Detailed transitions plan.
 - 1.16.9.7 Deficiency status list and summary of all open maintenance work orders for all equipment covered by the agreement as documented in the HAS EAMS.

- 1.16.10 Contractor must have a Third-Party Audit of equipment specified by the Director performed during Contractor phase out. In addition, HAS may at its discretion, request a third-party audit, no more than once a year. A third-party audit company must be approved by the Director.
- 1.16.11 Third Party Audits must verify Operation and Maintenance of all Aircraft Support Systems to include, but not limited to:
 - 1.16.11.1 Operation & maintenances of all assets.
 - 1.16.11.2 Preventive Maintenance.
 - 1.16.11.3 Condition of equipment
 - 1.16.11.4 Water Testing and Backflow Preventer Inspection Programs.
 - 1.16.11.5 Proficiency/accuracy of work performed by Contractor's employees.
 - 1.16.11.6 Housekeeping.
- 1.16.12 Prior to the expiration of the Agreement, after selection of a successor contractor, the incumbent Contractor and the successor Contractor shall jointly prepare a mutually agreeable detailed plan for approval by the Director for the phase-out of the incumbent Contractor and the phase-in of the successor Contractor.

1.17 FACILITIES AND SERVICES PROVIDED BY HAS

- 1.17.1 Utilities-HAS will provide all electricity and natural gas required for the operation of all assets. The existing service and distribution facilities for electricity and natural gas are in place and connected to the equipment.
- 1.17.2 HAS will also provide water necessary for use in the Aircraft Support Systems and for Contractor's employees on site.
- 1.17.3 480V Electrical Distribution - HAS' responsibility for power distribution is limited to service to the main 480-volt disconnect switches; there is currently a switch in each Terminal.
- 1.17.4 Non-Hazardous Solid Waste Pickup - HAS will provide pick-up of non-hazardous solid waste from Airport dumpsters. Disposal of hazardous, unusual (or) heavy items is the sole responsibility and cost of Contractor. With Director's prior written permission, filters can be disposed of in HAS dumpsters.
- 1.17.5 Fire Safety Equipment - HAS will maintain existing fire extinguishers.
- 1.17.6 Office, Maintenance, and Storage Area - If space is available, HAS may provide an office, maintenance, and storage areas. Contractor shall provide, at its expense, any additional required facilities. Contractor shall be responsible at its cost for all housekeeping of such facilities including, but not limited to, sweeping, washing, cleaning, waxing, painting, dusting, etc., of all areas, fixtures, and equipment.
- 1.17.7 Access to Work Areas - Subject to HAS rules and regulations, Contractor may enter and leave work sites at all reasonable times. Contractor and its employees may use the common areas and roadways at the Airport where the work sites are located. This excludes

parking for Contractor's personnel. All Contractor personnel must be badged. Contractor shall repair any damage it or its employees cause as a result of its use of the common areas.

1.17.8 Mail Distribution - HAS will provide internal Department mail service.

1.18 HAS-FURNISHED EQUIPMENT

- 1.18.1 HAS will provide HAS owned equipment for Contractor's use as shown in Appendix "I". Existing HAS owned equipment made available for Contractor's use remains the property of HAS. Contractor shall maintain equipment provided by HAS in good working order.
- 1.18.2 Throughout the term of the Agreement, Contractor shall keep current the equipment listing provided in Appendix "I". At the start of the Agreement and at the completion or extension of the Agreement, a joint inventory of equipment must be conducted by Contractor and HAS. Contractor shall be liable for loss or damage to HAS furnished equipment beyond fair and reasonable wear and tear.
- 1.18.3 Compensation for loss or damage mentioned above will be affected either by reduced amounts owed to Contractor or by direct payment by Contractor, the method to be determined by the Director.
- 1.18.4 Equipment Maintenance
- 1.18.5 Contractor shall maintain HAS-furnished equipment listed in Appendix "I".
- 1.18.6 Minor Maintenance - Includes cleaning, adjusting, replacement of batteries, ordinary lubricants and other maintenance actions recommended by OEM.
- 1.18.7 Major Maintenance - Includes repair of inoperable equipment, replacement of components, parts, and normal wear items.
- 1.18.8 Replacement Parts - Must be equal or better in quality than the parts in the equipment when the equipment was turned over by HAS.
- 1.18.9 Warranty - Contractor shall administer all warranties associated with HAS-furnished equipment and shall document and submit all warranty claims of equipment suppliers and manufacturers.
- 1.18.10 Disposition of Equipment
- 1.18.11 When equipment is determined to be in such condition that it cannot be repaired economically, such equipment will be returned to HAS. Upon completion of the term of the Agreement, all remaining HAS equipment must be returned to HAS.
- 1.18.12 A final inventory and evaluation of HAS furnished equipment must be made prior to payment of final invoice.

1.19 REPLACEMENT PARTS

- 1.19.1 \$6,500.00 Threshold - Contractor shall provide all replacement parts as per SOW equipment and appurtenances identified in Exhibit A and Appendix "I" that cost \$6,500.00 or less. Such cost will not take into account Contractor's labor cost, rather, just the actual cost of the part which must be documented to the satisfaction of the Director. By way of example, if a compressor requires replacement, Contractor shall not be responsible for the cost, assuming cost of such compressor is over \$6,500.00 and the replacement is not due to Contractor's negligence. However, if only the fan motor of the compressor requires replacement and assuming the cost of the fan motor is \$6,500.00 or less, it shall be replaced at Contractor's sole cost. In other words, there would be no justification to replace the compressor if only the fan motor requires replacement. Any dispute regarding the \$6,500.00 threshold shall be resolved at the sole discretion of the Director whose decision shall be final.
- 1.19.2 The Contractor shall develop a spare parts inventory sufficient to maintain the highest levels of performance and Service. The Contractor furnished parts may include parts recommended by the OEM or selected on the basis of the Contractor's own past experience upon approval of the Director. If new OEM parts are available, replacement parts must be new OEM parts. Where new OEM parts are not available, the Contractor may provide rebuilt OEM parts or use new parts of another manufacturer. In either case, parts must be equal or better in quality and performance than OEM parts and must be free from all defects. The Contractor shall continually restock its inventory to levels that will ensure compliance with performance requirements of this Agreement.
- 1.19.3 The Contractor shall utilize HAS parts first as listed in Appendix "VI" - Replacement Parts. Parts taken out from HAS inventory shall be replaced at no additional cost to the City.
- 1.19.4 Disposal of Used Parts - As a part of Basic Services, the Contractor shall dispose of all worn/defective scrap parts and waste or hazardous materials resulting from the Work under this Agreement at no additional cost to the City. Handling, transport, and disposal of worn/defective scrap parts and waste or hazardous materials must be done in such a manner as to ensure the highest level of safety to the environment and to public health and in compliance with all applicable laws and governmental regulations. The Contractor shall assume full responsibility and liability for and act prudently in all aspects of handling, transport, and disposal of any hazardous materials, securing all licenses and permits required by law and ensuring that any disposal facilities to which any scrap, waste, or hazardous materials may be moved are in full compliance with federal, state, and local laws and regulations. Worn/defective parts, waste, and hazardous materials must not be stored on Airport premises. The Contractor shall notify the Director when these parts are to be removed from HAS property.
- 1.19.5 Records - As a part of Basic Services, the Contractor shall provide a monthly report of all HAS parts utilized including usage and inventory balances by part number, in addition to the monthly reports the Contractor shall provide a daily report of all equipment out of service. A copy of this report will be submitted to the Director.
- 1.19.6 Parts Storage - The spare parts inventory is the responsibility of the Contractor. HAS may provide limited areas to store equipment and supplies, but it is not a guarantee and is subject to change. Any additional storage space required must be provided by the Contractor off-site at its expense. Current limited storage space is:

1.20 STORAGE LOCATION (SUBJECT TO CHANGE BY HAS)

- 1.20.1.1 Terminal A South (Ramp Level)
Baggage Make-up Area DLM 109
Office/ Storage 2,040 sq. ft.
- 1.20.1.2 Terminal A South (Ramp Level)
Baggage Make-up Area AS1.101
Storage 487 sq. ft.

1.21 TOOLS, INSTRUMENTS, AND EQUIPMENT

- 1.21.1 As a part of Basic Services, the Contractor shall provide all supplies, materials, equipment, instruments, and tools required for the Work at Contractor's expense. Materials and equipment shall be of the type and quality used in large-scale airport operations and shall meet the requirements specified herein. The Contractor shall provide a list of the proposed equipment, including test/calibration/diagnostic equipment, tools and supplies, etc., as part of the Agreement.
- 1.21.2 All Contractor's tools and hand tools must have company name and identification numbers attached/engraved on them and must be removed by Contractor at the termination or expiration of the Agreement.
- 1.21.3 All Contractor furnished tools, equipment and instruments must be removed by the Contractor at the termination or expiration of the Agreement.

1.22 MAINTENANCE/CONTROL OF FACILITIES

- 1.22.1 Physical Security -The Contractor shall safeguard all HAS property in its work area. The Contractor shall secure the facilities and equipment at the close of each work period.
- 1.22.2 Re-lamping - The Contractor shall replace all burned out lamps, ballasts, starters, and bulbs in HAS-owned facilities assigned for Contractor's use.
- 1.22.3 Key Control - The Contractor shall ensure keys issued by HAS are not lost, misplaced, or used by unauthorized persons. Keys issued by HAS shall not be duplicated. The Contractor shall be charged for replacement of locks or re-keying. The Contractor shall report occurrences of lost keys immediately to HAS. Contractor shall not change out the locks.
- 1.22.4 Office Furniture and Equipment - The Contractor shall provide all office furniture and computer equipment.

1.23 RADIOS

- 1.23.1 The Director will provide Contractor at a minimum five (5) radios, handheld radios with batteries and chargers for Contractor's use under this Agreement. The radios will be programmed to transmit and receive on Harris County trunked frequencies. Upon expiration or termination of Agreement, Contractor shall return all radios provided by the City in the same condition as when given to Contractor, less ordinary wear and tear.

- 1.23.2 Contractor shall operate the radios within protocols established by the City and the FAA.
- 1.23.3 Contractor shall deduct from its first monthly invoice a one-time amount of \$10.00 per radio, for the initial programming of each radio.
- 1.23.4 Contractor shall deduct from each monthly invoice throughout the term of this Agreement an amount of \$10.00 for each radio. This is to cover the maintenance of each radio. Contractor shall return radios requiring maintenance to the City.
- 1.23.5 The Contractor shall pay for time and materials to repair any damaged radio(s) and full replacement costs for any radio(s) that are lost or damaged beyond repair.
- 1.23.6 The radios remain the property of HAS.

1.24 SECURITY & BADGES

- 1.24.1 The Contractor's personnel and vehicles shall not be allowed within the Airport Operations Area (AOA), which includes the ramp areas and aprons, unless authorized by the Director and escorted by authorized City Personnel. The Contractor shall not move any Contractor owned vehicles on and off aprons or within the AOA without prior authorization.
- 1.24.2 Airport Security: The Contractor's services shall be performed in accordance with the Transportation Security Administration (TSA), Federal Aviation Administration (FAA) and any other governmental agency security directives, rules and regulations. The FAA and/or the TSA may assess fines and/or penalties for the Contractor's non-compliance with the provisions of Title 49 Code of Federal Regulations (CFR), Parts 1540 and 1542, as amended from time to time, or by other agencies for non-compliance with laws or regulations applicable to the Contractor's operations. Within 10 days of notification in writing, the Contractor shall reimburse the City for any fine or penalty assessed against the City because of Contractor's non-compliance with 49 CFR 1540 and 1542 or other applicable laws or regulations.
- 1.24.3 Badging: Contractor shall comply with all applicable Federal rules governing security at the Airport, as may be amended from time to time. Contractor acknowledges that fines or penalties associated with non-compliance with security regulations must be reimbursed to HAS.
- 1.24.4 All on site personnel of the Contractor, including subcontractors, who perform services under the Agreement, shall be required to undergo a fingerprint based criminal history records check. Fingerprints are collected at the Airport Badging Office and submitted electronically for investigation.
- 1.24.5 The Contractor shall obtain HAS security badges for its personnel performing services on-site, including its sub-contractor's personnel. On-site personnel shall wear identification badges at all times while on HAS property. The cost of the badges, which is subject to change, is currently \$55.00 each. Costs for the fingerprint-based criminal history checks are reflected in the cost of the badges. The Contractor is responsible for the cost of badges, including replacements thereof. Contractor's personnel shall be charged for replacement badges at the current rate.
- 1.24.6 The Contractor acknowledges that fines or penalties associated with non-compliance with

security regulations must be reimbursed to HAS.

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

(Example: 10 employees = Bond Amount of \$10,000.00)

1.25 SAFETY Minor corrections will be made to add timely notification reporting Safety Mishaps

- 1.25.1 The Contractor shall not require any person to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to their health or safety. The Contractor shall comply with all provisions of the Occupational Health and Safety Act (OSHA) and HAS Safety Standards.
- 1.25.2 The Contractor shall be completely familiar with, and shall enforce all City, State of Texas and Federal OSHA regulations and requirements as applicable, including but not limited to the following:
- 1.25.3 The Contractor's personnel shall wear applicable personal protection equipment at all times.
- 1.25.4 The Contractor's personnel operating equipment or handling materials shall be fully trained in the safe operation of the equipment or materials.
- 1.25.5 The Contractor's personnel shall follow and apply safety practices prevailing in their applicable industry.
- 1.25.6 The Contractor shall develop, implement and maintain an on-going safety program concerned with equipment, maintenance work, and related procedures. Contractor should present a written Safety Program (including Sub-contractors' services) to Director for approval no later than 60 days after Notice to Proceed. This shall include Security Identification Display Area (SIDA) training for IAH. Contractor shall post safety warnings on equipment as necessary to ensure safe operations. Contractor shall not operate, install, or test any equipment in an unsafe condition. Contractor shall properly operate and maintain all safety equipment associated with its services.
- 1.25.7 When the Contractor becomes aware of a hazardous or potentially hazardous condition during the course of performing services, the Contractor shall verbally notify Director. Contractor shall immediately make such notification upon detection of the condition. The Contractor shall detail conditions along with non-hazardous conditions and recommendations in its quarterly report.

1.26 SAFETY DATA SHEETS (SDS)

- 1.26.1 The Contractor shall furnish to each HAS Designee all SDS, (OSHA Form 174), for each product used in the facility. A Safety Data Sheet shall accompany each product shipment to the facilities. SDS should be stored and displayed per OSHA Standards.

1.27 CONTROL OF PREMISES

1.27.1 Access to Aircraft Support Equipment Systems.

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

1.27.3 All equipment PM sheets, schedules, and other records must be available in EAMS at for inspection by HAS personnel. All documents generated or obtained by Contractor that pertain to the operation and maintenance of all assets and equipment shall become HAS property upon Agreement expiration or termination. All such documents shall be transferred to the Director within ten (10) days of expiration or termination. All records must also be available in EAMS.

1.28 TRANSPORTATION AND PARKING

1.28.1 Contractor shall park its vehicles in areas designated by Director at its own cost. All information related to transportation activities of Contractor or its sub-contractors necessary to perform under the Agreement shall be provided by Contractor.

1.28.2 All of Contractor's and sub-contractor's vehicles shall be clearly marked with identification indicating Contractor's or sub-contractor's name. Such identification shall be placed on both sides of each vehicle and may be removable, e.g. magnetic.

1.29 INVOICING

1.29.1 Monthly payments for contractor shall include:

1.29.2 Operation, Planned Maintenance and Corrective Maintenance for all equipment (Refer to Appendixes "I" Aircraft Support Systems and "II" Support Equipment Requirements). Refer to Exhibit B Fee Schedule.

1.29.3 The monthly lump sum payments shall include all overtime, after-hours labor, additional staffing, and emergency labor required to meet the Airport Aircraft Support performance standards and Duties of Contractor detailed in the Agreement.

1.29.4 Pay for Performance Programs and Liquidated Damages deductions will be limited to 2% of the total Basic Services cost per Agreement year.

1.29.5 The Contractor shall submit its invoices for work completed on a form(s) approved in advance by the Director; invoices shall be accompanied by support documents requested by the Director.

1.29.6 A copy of the Director's written request for Change Order and Other Work/Service shall be submitted with the invoices.

- 1.29.7 Each invoice submitted and shall include required appendix. The invoice shall be identified by the Agreement name and Agreement number. All invoices are to be delivered or mailed to the following location:

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

- 1.29.8 The Houston Airport System will accept invoices submitted electronically along with required support information; such as Outline Agreement Number(s), Service Release Orders (SRO) Numbers, Timecards etc. Each invoice should be in a "PDF" or "TIFF" format. Multiple invoices can be submitted in a single email.

- 1.29.9 Requirements are as follows:

Submit invoices in "PDF" or "TIFF" format and send to has.accountspayable@houstontx.gov

1.30 RECORDS AND REPORTS

- 1.30.1 As part of Basic Services, The Contractor shall develop and maintain daily logs, weekly, monthly, and annual reports for maintenance of the aircraft support systems and aircraft support operations area. The logs shall provide a record of all pertinent operating data and maintenance performed as documented in the HAS EAMS. The Contractor's record keeping system is subject to approval by the Director, and all records required may be inspected by the Director at any time during normal business hours. The Contractor shall provide all maintenance records and history on one hard copy and flash drive and/or approved electronic media to the Director. Throughout the term of the Agreement and upon expiration or termination of the Agreement, all manual and automated records (including software data) produced and maintained on file become the property of HAS; Contractor shall submit all maintenance records to the Director, on approved electronic media; the Contractor may retain all original employee and accounting files, but shall furnish a copy of the accounting files to the Director upon request. It is expressly noted that all data contained and/or populated in the HAS EAMS by the Contractor, EAMS software, and any hardware or hand-held devices that may have been provided to the Contractor, remains the specific property of the Houston Airport System. The Contractor at no time owns any data, software or EAMS-related hardware.
- 1.30.2 Reports shall be signed by the Project Manager. Such signature is certification that all reports and information are truthful and accurate. Falsification of any records is grounds for termination of the Agreement.
- 1.30.3 The Contractor's Logs provided to the Director shall document all pertinent operating data and maintenance performed by Contractor or its sub-Contractors under the Agreement and as documented in the HAS EAMS. Contractor shall describe any event or condition not readily discernible from recorded data in a "Remarks" section.

1.30.4 The Contractor shall develop and maintain on site records, including but not limited to, Agreement documents, inventory records, accounting and procurement records, system documents and manuals and any other documents necessary to meet reporting requirements or requests by the Director including any task required under this Agreement but not performed. Failure to document this can result in the application of Liquidated Damages in accordance with Appendix "V".

1.31 DAILY RECORDS AND REPORTS

1.31.1 The Contractor shall utilize HAS EAMS to develop and maintain Daily Work Logs and Reports to record events of maintenance of the following: aircraft support systems, and ground support equipment. The Daily Work Logs shall record all pertinent daily operating and maintenance data, including but not limited to date, time, service performed, status or results, costs, and person who performed service or inspection. Relevant events or conditions not readily discernible from the recorded data shall be described in a "Remarks" section. The Daily Work Log and Summary shall be in a format acceptable to HAS. The Contractor shall provide a daily log of parts/materials used.

1.32 MONTHLY RECORDS AND REPORTS

1.32.1 The Contractor shall utilize HAS EAMS to provide a monthly Operations and Maintenance report. The report shall provide essentially the following information in a format acceptable to HAS. A compliance checklist of all items required in this section shall be included with this report. The Monthly Maintenance Report shall include, but is not limited to:

- 1.32.1.1 A summary of daily log information.
- 1.32.1.2 Status of systems and equipment.
- 1.32.1.3 Parts/Materials utilization by unit.
- 1.32.1.4 Costs of Parts/Materials utilized by unit.
- 1.32.1.5 Summary of Maintenance work performed and all work that was scheduled but not performed for any reason.
- 1.32.1.6 The results of inspections and tests conducted.
- 1.32.1.7 List of equipment breakdowns and repair time.
- 1.32.1.8 Training Reports and Safety Meeting Notes.

1.32.2 Monthly Maintenance Reports shall be submitted to the Director by the fifteenth (15th) day following the reported month. Maintenance reports are to be submitted on approved electronic media, with one hard copy delivered to the Director.

1.33 OTHER REPORTS

1.33.1 Daily Work Log - The Contractor shall submit an electronic daily work log depicting the Work completed or performed for each day, including the daily equipment in service report work log summaries shall also be included in monthly reports.

- 1.33.2 Parts/Materials Usage - The Contractor shall submit daily reports depicting parts/materials usage each day. The Contractor shall also submit a monthly Parts/Materials Usage report indicating current materials, stock levels, and required restocking over the past month.
- 1.33.3 Load Bank Test - A Load Bank Test shall be performed on 400 Hz and 28.5 VDC Power System at each gate every 6 months.
- 1.33.4 Employee Roster Report - The Contractor shall maintain a weekly record of employee attendance records by date, title, attendance etc. and submit to HAS every two weeks.
- 1.33.5 Inclement Weather/Emergency Plan
- 1.33.6 Hazardous Chemical Records - The Contractor of any discipline providing services to HAS shall provide a completed Safety Data Sheet (SDS) as required by applicable laws for each and every hazardous chemical as used in performance of the Work or stored on City property.
 - 1.33.6.1 Any material declared as hazardous by the Texas Department of Health and Human Services (TDHHS), Austin, requires an SDS; they can provide the forms upon request.
 - 1.33.6.2 The Contractor's Project Manager shall maintain the completed forms. All hazardous chemical records shall be made available to the Director for periodic review.
 - 1.33.6.3 Preventive and Scheduled Maintenance Plans – Must be updated within 30 days in the event of an Inclusion/Exclusion and submitted to the Director for approval.

1.34 WARRANTY REPORT

- 1.34.1 As part of Basic Services throughout the Agreement Term, the Contractor shall administer warranties on systems and equipment. Contractor shall maintain warranty records and provide reports in a format acceptable to the Director utilizing HAS EAMS. Contractor shall enforce all warranties on behalf of HAS. Contractor shall provide service regardless of whether equipment is wholly or partially under warranty.

2.0 OPERATIONS & MAINTENANCE (O&M) SERVICES

Three different levels of O&M services are described below. They include, **Best Management Practices, Industry Standard, and Reactive Services**. Refer to the latest release of the Operations and Maintenance Best Practice Department of Energy (DOE) manual for additional guidelines. In the event of a conflict between this agreement and the DOE manual, this Agreement shall govern.

2.1 BEST MANAGEMENT PRACTICES

Individual assets or systems included in the Best Management Practices Level of Service (LOS) and Industry Standard LOS will be maintained through Reliability-Centered Maintenance (RCM) protocols. The contractor shall maintain the individual asset and/or system to a level in which it retains its' original Day One expected life cycle. (Reference definitions for Best Management Practices and Industry Standard).

- 2.1.1 Contractor shall provide Services during the following time periods:
- 2.1.2 Twenty-four (24) hours-per-day, seven (7) days per week, three-hundred and sixty-five days (365) days per year, including holidays.
- 2.1.3 Contractor shall provide continuous on-site supervision and on-site staffing necessary to provide specified Aircraft Support operation and maintenance services to all specified facilities.
- 2.1.4 Upon HAS notification, on-site response time by qualified staff of five (5) minutes or less for emergency, and fifteen (15) minutes less for non-emergency, operational deficiencies are required.
- 2.1.5 Contractor to assist with any 3rd party audits, assessments and retro-commissioning by providing escorts and access to mechanical rooms and supervised access to Airport facilities as needed.
- 2.1.6 Repairs and/or replacement of Aircraft Support equipment or parts due to Contractor's failure to perform proper maintenance as specified, will be the responsibility of the Contractor at no cost to HAS.
- 2.1.7 Contractor shall bear all costs associated with any repairs or replacement required as the result of Contractor's negligence or deliberate act.
- 2.1.8 Other Work/Services to be provided by Contractor under the Agreement includes other related required work that is beyond the scope of O&M Services, such as Other Service Requests (OSR) and Change Orders (CO).
- 2.1.9 **Contractor will perform Predictive Maintenance (PdM) services:**
 - 2.1.9.1 Predictive Maintenance (PdM) is a carefully planned system of machinery analysis and diagnostics. (PdM) provides machinery "health condition: information, which prompts timely, corrective action". The expected result:

optimum machine productivity, extended machine life, and reduced maintenance cost.

- 2.1.9.2 Contract will develop a PdM to be reviewed and approved by HAS. The PdM services will be tracked in EAMS.

2.1.10 Duties of Contractor

- 2.1.10.1 Contractor shall implement industry best practices service through use of documented policies, procedures, processes, and employee training programs in accordance with the latest release of the Operations & Maintenance Best Practices developed by the U.S. Department of Energy.

2.1.11 Contractor's industry best practices shall include, but not be limited to the following:

- 2.1.11.1 A central Help Desk to provide a focal point for operations planning, scheduling, communications with Contractor's customers, and control of all Agreement activities; and provide an integrating function for all program activities including a priority response system and fail-safe process to ensure the Contractor responds in the allotted time.
- 2.1.11.2 Efficient deployment and optimum use of all modules and capabilities of the EAMS that includes electronic documentation and reporting of all activities.
- 2.1.11.3 An organizational model and work schedules that integrate all elements of strategic site leadership, field supervisory, customer service, and technical responsiveness.
- 2.1.11.4 A model and management approach that considers and fosters internal departmental and external process handoffs, communications, teamwork, and process improvements.
- 2.1.11.5 Employee-training program that ensures Contractor's employees remain highly skilled and proficient.
- 2.1.11.6 Contractor's continuous improvement that incorporates the latest advances in Quality and Customer Satisfaction programs.

2.1.12 Implementation of Reliability Centered Maintenance Protocols.

- 2.1.12.1 Utilize the HAS Enterprise Asset Management System (EAMS) including maintenance trending and tracking to improve operational reliability, document all maintenance required and subsequently performed, reduce repair costs and optimize system operation efficiency (Refer to Appendix "III" – HAS Enterprise Management System EAMS). The Contractor shall not utilize any separate maintenance management system. The HAS

EAMS shall be used exclusively by the Contractor for all services performed under this contract. The contractor is responsible for training and familiarization of the HAS EAMS software. For the duration of the Agreement, the contractor is also required to attend HAS EAMS training regarding the EAMS hierarchy familiarization, user/security rights, and other HAS approved workflow processes. HAS EAMS training includes 4-8 hours per EAMS user. Contractor shall comply with HAS standards, policies and procedures to include, but not limited to: HAS EAMS Policy and Procedures, HAS Design Standards, and HAS Sustainability/Sustainable Asset Management Policy. The Contractor shall maintain the EAMS database current with regards to any modifications or changes to installed systems and/or components made by the Contractor utilizing the EAMS Policy during the term of this contract.

- 2.1.12.2 Utilize Sustainable practices including retro-commissioning and measurement and verification to return systems back to optimum operations.
 - 2.1.12.3 Performance penalties assessed for non-attainment of service (Refer to Appendix "IV" Pay for Performance Programs and Appendix "V" Liquidated Damages).
 - 2.1.12.4 Preventive and Planned Maintenance Programs (Refer to Section 1.0 - Basic Services).
 - 2.1.12.5 Documented Reactive corrective maintenance (Refer to Section 1.30 - Records and Reports).
 - 2.1.12.6 Perform Preventive and planned maintenance to reduce O&M costs and unplanned system outages (Refer to Section 1.0 Basic Services).
- 2.1.13 Capital Projects, Tenant Improvement Projects (TIPS), and Job Order Contracts (JOCs)**
- 2.1.13.1 Contractor shall assist HAS as requested, each time there is a Capital Project, Tenant Improvement Project, or a Job Order Contract (JOC) projects. Contractor shall observe in a non-supervisory capacity, all work relating to Aircraft Support. Contractor shall conduct Reactive walk-through from time to time and report back to the Airport any work that is not compliant to applicable codes or in the Contractor's opinion not in the best interests of the Airport. At completion of project, the Contractor shall do a final walk-through with project Contractor's representative and notify the Director in writing of any deficiencies.
- 2.1.14 Reliability Centered Maintenance (RCM) - Best Management Practices**
- 2.1.14.1 As a part of O&M Services throughout the term of the Agreement, the Contractor shall provide Reliability Centered Maintenance (RCM) on Aircraft Support Systems and Support Equipment.

- 2.1.14.2 Contractor must use the RCM to determine the most effective approach to maintenance and what must be done to ensure the Aircraft Support Systems continues to perform as designed by the OEM within the present operating context. RCM is an ongoing process in which the Contractor gathers data from the system's performance and uses this data for future maintenance and/or recommend design changes.
- 2.1.14.3 RCM must employ all Maintenance techniques in an integrated manner to increase the probability that the Aircraft Support Systems will function in the required manner over their design lifecycle at the lowest maintenance cost.
- 2.1.14.4 RCM requires that the Contractor make maintenance decisions based on maintenance requirements at appropriate service intervals supported by sound technical and economic justification. RCM includes but is not limited to:
 - 2.1.14.4.1 Obtaining the highest level of performance and safety for the occupants and employees maintaining the Agreement.
 - 2.1.14.4.2 Providing maximum functionality, availability, safety and reliability performance of Aircraft Support Systems at the lowest cost.
 - 2.1.14.4.3 Identifying and implementing the most cost-effective actions that reduce the probability of Aircraft Support Systems failure.
 - 2.1.14.4.4 Provide statistical method of optimizing all maintenance programs for Aircraft Support Systems.
 - 2.1.14.4.5 Establish and identify issues of personnel performance and make any required corrections.
 - 2.1.14.4.6 Restore equipment to the required levels of performance when deterioration occurs, but before failure. "Required" shall be defined as a serviceable condition, not necessarily equal to new condition, which will allow the equipment to operate safely and at design capacity without any know deficiencies.
 - 2.1.14.4.7 Collect the data, during the life of the Agreement and/or equipment, to change the workflow or design of the equipment in order to improve its reliability. Data to be collected and archived in EAMS.

2.1.15 Functional Requirements

- 2.1.15.1 Aircraft support system agreement hours- 24/7, 365 days per year with PM performed as coordinated and directed by the Director without an

impact to the operation. Support equipment agreement hours-~~24/7~~ 0500-2300, 365 days per year.

2.2 INDUSTRY STANDARD

- 2.2.1 Individual assets or systems included in the Industry Standard LOS will be maintained through the conduct of planned and Preventive Maintenance (PM) recommended by original equipment manufacturer (OEM). The primary objective of the Industry Standard LOS is to provide ongoing planned, preventive and Corrective maintenance on the asset and/or individual system such that the original life cycle is achieved.
 - 2.2.1.1 Contractor shall provide Services during the following time periods; twenty-four (24) hours-per-day, seven (7) days per week, three-hundred and sixty-five days (365) days per year, including holidays.
- 2.2.2 Contractor shall provide continuous on-site supervision and on-site staffing necessary to provide specified Aircraft Support operation and maintenance services to all specified facilities.
- 2.2.3 Upon HAS notification, on-site response time by qualified staff of five (5) minutes or less for emergency, and fifteen (15) minutes less for non-emergency, operational deficiencies are required.
- 2.2.4 Contractor to assist with any 3rd party audits, assessments and retro-commissioning by providing escorts and access to mechanical rooms and supervised access to Airport facilities as needed.
- 2.2.5 Repairs and/or replacement of Aircraft Support equipment or parts due to Contractor's failure to perform proper maintenance as specified, will be the responsibility of the Contractor at no cost to HAS.
- 2.2.6 Contractor shall bear all costs associated with any repairs or replacement required as the result of Contractor's negligence or deliberate act.
- 2.2.7 Other Work/Services to be provided by Contractor under the Agreement includes other related required work that is beyond the scope of O&M Services, such as Other Service Requests (OSR) and Change Orders (CO).
- 2.2.8 Performance penalties assessed for non-attainment of service (Refer to Appendix "IV" Pay for Performance Programs and Appendix "VI" Liquidated Damages).
- 2.2.9 Preventive and Planned Maintenance Programs (Refer to Section 1.0 - Basic Services).
- 2.2.10 Documented Reactive corrective maintenance (Refer to Section 1.30 - Records and

Reports).

2.2.11 Perform Preventive and planned maintenance to reduce O&M costs and unplanned system outages (Refer to Section 1.0 Basic Services).

2.2.12 Capital Projects, Tenant Improvement Projects (TIPS), and Job Order Contracts (JOCs)

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

2.3 REACTIVE SERVICES

2.3.1 Individual assets or systems included in the Reactive LOS are maintained operational through the conduct of required corrective maintenance.

2.3.2 Contractor shall provide Services during the following time periods:

2.3.2.1 Twenty-four (24) hours-per-day, seven (7) days per week, three-hundred and sixty-five days (365) days per year, including holidays.

2.3.3 Contractor shall provide continuous on-site supervision and on-site staffing necessary to provide specified Aircraft Support operation and maintenance service to all specified facilities.

2.3.4 Upon appropriate HAS notification, on-site response time of five (5) minutes or less for emergency and fifteen (15) minutes less for non-emergency is required.

2.3.5 Repairs and/or replacement of Aircraft Support equipment or parts due to Contractor's failure to perform proper maintenance as specified, will be the responsibility of the Contractor at no cost to HAS.

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

2.3.7 Other Work/Services to be provided by Contractor under the Agreement includes other related required work that is beyond the scope of O&M Services, such as Other Service Requests (OSR) and Change Orders (CO).

2.4 BEST MANAGEMENT, INDUSTRY STANDARD & REACTIVE SERVICES REQUIREMENTS

2.4.1 Division of Responsibility - Best Management Practices, Industry Standard, and Reactive Services

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

2.4.1.2 The Director reserves the right to make final decisions related to Aircraft Support System operation and maintenance. If the Director chooses to override the Contractor's decisions, the Director shall inform Contractor in writing.

2.4.2 Aircraft Support Automation Systems - Best Management Practices, Industry Standard, and Reactive Services

2.4.2.1 Contractor shall operate, maintain, and repair direct digital control systems related to Aircraft Support Systems where applicable.

2.4.2.2 Contractor shall be responsible for the Best Management Practices, Industry Standard, and Reliability Centered Maintenance services of the Aircraft Support Systems including Automation Systems, CPU/executive controllers, hardware and software to include system software upgrades within current generation software revision levels. Contractor shall perform Best Management Practices, Industry Standard, and Reactive Services maintenance services of all ancillary components such as input-output devices, unitary controllers, and sensors at no additional cost to the City.

2.4.2.3 Contractor shall maximize the use of the Automation Systems to minimize the consumption of energy and to ensure environmental conditions are appropriate as required herein for the various space and areas within the Airport's facilities. Contractor shall use the Automation Systems for operational strategies, monitoring, and diagnostics. Contractor shall ensure all components – software and hardware are fully operational, and the system is maintained in accordance with the manufacturer's requirements.

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

during normal operation must be addressed immediately. Daily operational tests and checks must be documented in an approved HAS format.

- 2.4.2.5 Contractor shall request any training or instruction from the Automation Systems vendor to efficiently extract data from in electronic format for use in common spreadsheet or database software applications such as Microsoft Excel. Development of pre-formatted templates used for summarizing and periodic reporting of energy use and operational trends is the responsibility of the Contractor. Contractor shall be responsible for the costs of training at no cost to HAS.
- 2.4.2.6 The Automation Systems are included in Contractor's Reliability Centered Maintenance methodology. The preventive and repair maintenance plan must be incorporated into and administered through the EAMS. Penalties will be assessed to the contractor if the automation systems are not performing as per OEM standards regardless of the impact to Airport operations.
- 2.4.2.7 Contractor is required to operate and maintain Aircraft Support assets in an energy efficient method, and to continuously seek and implement more efficient energy savings technologies and strategies. Contractor to track and report all energy efficiency initiatives through the HAS EAMS.
- 2.4.2.8 Contractor shall maintain all computer systems in compliance with all HAS Cyber Security procedures, protocols and policies.
- 2.4.2.9 The system shall include anti-virus software in accordance with HAS IT requirements.
- 2.4.2.10 Contractor shall install all manufacturer security updates within two (2) weeks of release.
- 2.4.2.11 System Availability: At any given time, the systems shall be considered unavailable if 15 percent or more of the end devices are non-operational, not fully functional, or do not meet response time criteria for any given tenant. Software and system devices shall execute, without degradation, at the scheduled periods and response times for the systems to be considered available. The systems shall operate as specified twenty-four (24) hours per day, seven 7 days per week. Availability of the overall systems shall be at least 99.99 percent (not more than 52 minutes per year of downtime).
- 2.4.2.12 Device Availability: A system server, workstation, and display shall be considered available only if all components are operating and fully functional. A peripheral device shall be considered unavailable if it cannot be placed on-line and perform it's intended function(s). Besides scheduled downtime, as identified below, individual device availability shall exceed 99 percent (not more than 87.5 hours per year of downtime).

2.4.2.13 Scheduled Downtime: Downtime to update the computer operating system or repair a component shall be acceptable reasons for downtime, but at no time shall more than 15 percent of the system be non-operational. The following reasons are acceptable causes of down time:

2.4.2.13.1 If the operating system of the servers requires maintenance or updates, or if the servers require system maintenance, each server shall be brought down individually to be updated/maintained, such that at no time is more than one server down at the same time.

2.4.2.13.2 If the operating system of the end device computer requires maintenance or updates, or if the end device computers require system maintenance, the end device that requires the maintenance shall be brought down during non-peak hours of operation.

2.4.2.13.3 It shall be acceptable to perform maintenance/updates on an end device computer system during other than non-peak hours if the particular end device is non-functional without have the maintenance or updates performed.

2.4.3 Potable Water Testing Program - Best Management Practices, Industry Standard, and Reactive Services

2.4.3.1 Contractor shall provide the potable water testing program specified in Section 1.2 (Aircraft Support Systems).

2.4.4 Passenger Boarding Bridge (PBB) Cleaning - Best Management Practices, Industry Standard, and Reactive Services

2.4.4.1 Contractor shall create and implement a cleaning schedule for all PBB's within this Agreement. The cleaning schedule shall at a minimum have the following:

2.4.4.1.1 Daily Cleaning: At least one complete cleaning shall be performed daily per OEM standards to include, but not limited to; carpet cleaning (vacuuming and spot shampooing), all interior horizontal and vertical surfaces (carpet, glass, panels, rails, etc.) and HVAC supply/return grilles and vents at no additional cost to the City.

2.4.4.1.2 Carpet Deep Cleaning: A deep cleaning shall be conducted per OEM standards and / or at the request of the Director at no additional cost to the city.

2.4.4.1.3 Carpet Replacement: If the Contractor fails to perform the Daily Cleaning (8.6.1.1) and Carpet Deep Cleaning (8.6.1.2) resulting in stained carpet beyond repair, then the Contractor will be responsible for replacement of the carpet at no additional cost to the City.

2.4.5 Regulatory Compliance

- 2.4.5.1 The Contractor shall comply with all applicable Federal, State and local laws, HAS Regulations and policies, standards, ordinances, rules, and regulations pertaining to the performance of the Work specified herein.
- 2.4.5.2 Licenses, Permits and Bonding: All personnel engaged in the maintenance activities must possess certificates of training, licenses, permits, and bonding as required by the Federal, State, City, County, HAS, and other local authorities having jurisdiction and as specified for each activity they will be directly engaged in or supervise. All certificates of training, licenses, permits and bonds shall be current and valid and available immediately upon request by HAS.
- 2.4.5.3 The Contractor shall obtain and pay for all permits, licenses, certifications and approvals required to perform services under the Agreement.
- 2.4.5.4 The Contractor shall schedule recurring inspections and certifications and pay all associated fees.
- 2.4.5.5 The Contractor shall obtain any permits required to work on the Airport, including in restricted areas, as defined by Federal, State and local laws, City policies, procedures, ordinances, rules, codes and regulations. Both the Contractor's business and the Contractor's employees, including Sub-contractor's employees, must be certified to work on the Airport property, including restricted areas.
- 2.4.5.6 The Contractor shall be required to provide, as requested and on demand, all licenses, permits, certifications, and other such proof of qualifications for any personnel required to work on the Airport, including restricted areas, for proper execution of the Agreement.

2.4.6 Codes and Standards

The Contractor shall comply with the latest edition and minimum standards of the following codes:

- 2.4.6.1 Federal, state, and local building, plumbing, mechanical, electrical, safety and environmental codes, and HAS standards.
- 2.4.6.2 National Electrical Code (NEC), City of Houston Electrical Code Provision, and State Requirements as stated in Texas Electrical Safety and Licensing Chapter 1305 and Administrative Rules of the Department of Licensing and Regulations, 16 Administrative Code Chapter 73.
- 2.4.6.3 International Plumbing Code.
- 2.4.6.4 International Mechanical Code.
- 2.4.6.5 International Fire Code.

- 2.4.6.6 International Energy Conservation Code.
- 2.4.6.7 State and Local Building Codes and Ordinances.
- 2.4.6.8 State and Local Fire Codes and Regulations.
- 2.4.6.9 Federal Aviation Standards and Regulations.
- 2.4.6.10 Occupational Safety and Health Administration Regulations.

2.4.7 Performance Standards

- 2.4.7.1 Contractor's operation and maintenance of Airport Aircraft Support Systems must be in accordance with the highest standards prevailing in the industry, including but not limited to the latest release of the Operations & Maintenance Best Practices developed by the U.S. Department of Energy, recommendations of the OEM, as well as all applicable codes, rules, regulations, and laws of any regulatory or legislative body having jurisdiction over IAH which include, but are not limited to, State of Texas agencies having jurisdiction over boiler operations, Texas Commission on Environmental Quality (TCEQ) over certain environmental matters, and Federal regulatory bodies, including, but not limited to EPA, OSHA, TSA, and FAA. Contractor shall ensure full compliance and shall bear the cost of any additional work or materials not specified that may be required. Any violation, omission, or question of compliance must be brought to the attention of the Director within five days of Contractor's actual or constructive knowledge.
- 2.4.7.2 Contractor shall respond to a request from the Director for emergency service to perform all steps reasonably necessary to protect persons and property from risk of harm due to a problem with the system. Priority must be given to requests for emergency service.

2.4.8 Backflow Preventers

- 2.4.8.1 Contractor shall certify annually all backflow preventers listed in Appendix I.

2.5 BEST MANAGEMENT PRACTICES AND INDUSTRY STANDARD REQUIREMENTS

- 2.5.1 Maintain the EAMS driven schedule of planned and unplanned maintenance actions on Aircraft Support Systems in accordance with OEM equipment manufacturer's instructions and in accordance with the best preventive maintenance industry practices for the prevention of equipment breakdowns and failures. Contractor shall develop a PM schedule so as to complete PM's on equipment within the manufactures recommendations and contracted Level of Service (LOS).
- 2.5.2 The proper implementation of PM and Pd.M. is to be utilized to ensure productive corrective maintenance, reduction of system down time, and effective cost control of system components by the timely planned replacement of components.

2.5.3 Filter Replacement - Best Management Practices and Industry Standard

- 2.5.3.1 As part of O&M Services, Contractor shall inspect and replace the PBB's HVAC filters, as required with the frequency of inspection based upon excessive differential pressure.
- 2.5.3.2 Filter Selection Performance Factors:
 - 2.5.3.2.1 Filter replacement requires the use of various types of filters properly located to ensure maximum indoor air quality at an economical cost.
 - 2.5.3.2.2 Filter type must be consistent with MERV 8, ASHRAE 62.1, and Standard for efficiency.
 - 2.5.3.2.3 Filter selection must conform to EPA requirements.
 - 2.5.3.2.4 Whenever possible, filters must utilize existing filter frames.

3.0 OTHER WORK/SERVICES (OSR)

3.1 General Requirements

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

3.2 Performing Other Work/Services

- 3.2.1 Other Work/Services shall be performed in accordance with all provisions of the Agreement and any special provisions issued with the Other Service/Request (OSR).
 - 3.2.1.1 Before issuing an OSR, the Director will first issue a written notice to the Contractor detailing the specific OSR to be performed by the Contractor.
 - 3.2.1.2 In response to any such written notice, the Contractor shall provide the Director with a written Proposal within five (5) business days of receipt of OSR. The Contractor shall include a description of the services to be performed, applicable labor rates, estimated labor hours, performance schedule, total estimated cost, and other requirements set forth in the written notice to the Contractor. Prior to the expiration of the five (5) business days the Contractor can request in writing a three (3) day extension to submit an OSR quote. The Director may or may not approve

the extension. If OSR quote is not submitted in the allotted time Liquidated Damages may be imposed (reference Appendix V).

- 3.2.1.3 Contractor shall furnish all materials, labor, tools, equipment, transportation, and incidentals for accomplishing the described services or as otherwise specified by Director. Travel, airfare, lodging, meals, and rental cars that may be incurred in the performance of Other Work Services shall have no additional costs to HAS. Director will not approve an OSR without a specified completion date. Contractor shall complete all such Other Work/Services within the time specified in the OSR. Contractor can request in writing an extension to the completion date. However, the Director may or may not allow the extension. Director's decision is final.
- 3.2.1.4 Upon receipt of the Contractor's Proposal, the Director has the option to reject the Contractor's Proposal, require resubmission with revised or additional information, or issue an OSR. Should the Director reject the Contractor's Proposal and require resubmission, the Contractor shall resubmit a modified Proposal within three (3) business days of the rejection.
- 3.2.1.5 Upon approval by Director of the modified Proposal, an OSR will be issued. The Contractor shall commence work as stated in the OSR. The Contractor shall diligently work to completion in accordance with the terms and conditions of the Agreement and the approved OSR.
- 3.2.1.6 The Contractor's labor cost shall not exceed the rate stated in the Fee Schedule. The Contractor's labor cost stated in the pricing Agreement only applies to the Contractor employees who are "not" performing work in conjunction with their regular duties. Labor is inclusive of supervision, transportation, tools, and expendables.
- 3.2.1.7 Prices for equipment, parts, supplies, and sub-contracted work, which may be required for authorized Other/Work Services, shall be the Contractor's actual cost-plus percent (%) mark-up proposed on the Fee Schedule (*Mark-up excludes Freight*). Copies of invoices from the Contractor's suppliers for these items must be submitted with Contractor's invoices at the time of submittal to the City for payment. The mark-up percentages stated shall not increase during the term of the Agreement. The quantity of equipment, parts, and supplies will depend on the needs of the HAS.
- 3.2.1.8 Should a required service exceed \$3,000.00, Contractor shall obtain three (3) itemized bids/estimates within five (5) business days from separate/different vendors/ suppliers, not affiliated with the Contractor, for the required equipment, parts, supplies, and subcontracted works/items. Contractor shall submit the bids/estimates to Director and obtain written approval from Director before proceeding with the Work Contractor shall be compensated at actual cost-plus percent (%) mark-up proposed on Fee Schedule (mark-up excludes freight).
- 3.2.1.9 If a required service is less than \$3,000, Contractor shall obtain one (1) itemized bid/estimate from a separate/different vendor/supplier not affiliated

with the Contractor within five (5) business days for the required equipment, parts, supplies, and subcontracted works/items. Contractor shall submit the bid/estimate to the Director and obtain written approval from the Director before proceeding with the Work. Contractor shall be compensated at actual costs plus percent (%) mark-up proposed on the Fee Schedule (mark-up excludes freight).

- 3.2.1.10 The Contractor shall utilize HAS spare parts first as listed in Appendix "VI" - Replacement Parts. Parts taken out from HAS inventory shall be replaced at no additional cost to the City. Refer to Section 1.19.
- 3.2.1.11 When Other Work/Services have been completed, a copy of the approved OSR shall accompany the monthly invoice.
- 3.2.1.12 While performing work on any OSR, if hidden damage or additional cost is discovered, the Contractor shall notify the Director immediately. After determining the extent of hidden damage, a supplemental OSR shall be submitted.
- 3.2.1.13 The Contractor shall submit to Director, copies of original purchase orders and invoices evidencing Contractor's acquisition costs.
- 3.2.1.14 In the case of emergency service, the Contractor may perform Other Work/Services upon the verbal approval of the Director. However, during the next business day, the Director will submit a written Emergency Service Request to the Contractor.
- 3.2.1.15 The Contractor shall respond to emergency and weather situations with adequate management and technical staff, communication means, supplies, and equipment (e.g. generators, pumps, lights, spill protection, etc.).
- 3.2.1.16 The Contractor and its Subcontractor(s) shall have adequately trained staff as require contending with any such situations described by Force Majeure and other such occurrences that should require immediate and long-term attention.
- 3.2.1.17 If it is determined this Scope of Work should be covered under Basic Services, any amount paid to the Contractor under Other/Services Request will be reimbursed to the City by the Contractor within thirty (30) days of such determination. The City does not waive any of its rights and remedies whether by statute, at law, in equity, or under this Agreement.
- 3.2.1.18 If OSRs are performed by the on-site crew in conjunction with their regular duties, the Contractor shall not receive additional compensation for their labor.
- 3.2.1.19 Unless specifically allowed under a section of this agreement, preventative maintenance parts and services shall not be an OSR candidate.

3.3 Other Work Services may include but are not limited to the following categories:

- 3.3.1 Non-emergency assets maintained under Reactive Services Level of Service.
- 3.3.2 Replacement parts for OSR's whose unit cost exceeds the established threshold of \$6,500 as described in Section 1.19. **Modification will be made to include software upgrades**
- 3.3.3 Systems and equipment upgrades (excluding software) and modifications.
- 3.3.4 Third party damages resulting in replacement part in which the cost exceeds the threshold of \$6,500.
- 3.3.5 System and equipment damages caused by Force Majeure. Regarding claims of Force Majeure, Contractor shall provide to the Director satisfactory evidence of Force Majeure.
- 3.3.6 Provide any other services related to the general scope of this Agreement not otherwise included in the Basic Services or Other Work Services and not customarily furnished in an Aircraft Services Agreement.

Note: Work included in OEM normal routine maintenance or under warranty is excluded from the above list.

4.0 PRICING

- 4.1 Contractor level of service bid pricing will be effective for the duration of the Agreement and will be defined as "Unit Pricing" if assets are added or subtracted from the Agreement. Refer to Exhibit F.
- 4.2 Contractor shall provide annual lump sum bid pricing for each line item on the bid form. Refer to Exhibit F. Line items are organized by Level of Service (Best Management Practices, Industry Standard and Basic Services).
- 4.3 HAS reserves the right to select any Level of Service (LOS) and to reduce or increase the LOS as needed throughout the term of the Agreement. Additions made after award of Agreement will be implemented by Change Order. Change Orders will include a 30-day notice period prior to becoming effective.

5.0 INVOICING

- 5.1 Monthly payments for contractor shall include:
 - 5.1.1 Operation, Planned Maintenance and Corrective Maintenance for all equipment (Refer to Appendixes "I" Aircraft Support Systems and "II" Support Equipment Requirements). Refer to Exhibit F Fees and Costs after contract execution between the City and the awarded Vendor.
 - 5.1.2 The monthly lump sum payments shall include all overtime, after-hours labor, additional staffing, and emergency labor required to meet the Airport Aircraft Support performance standards and Duties of Contractor detailed in the Agreement.
 - 5.1.3 Pay for Performance Programs and Liquidated Damages deductions will be limited to 2% of the total Basic Services cost per Agreement year.

- 5.1.4 The Contractor shall submit its invoices for work completed on a form(s) approved in advance by the Director; invoices shall be accompanied by support documents requested by the Director.
- 5.1.5 A copy of the Director's written request for Change Order and Other Work/Service shall be submitted with the invoices.
- 5.1.6 Each invoice submitted and shall include required appendix. The invoice shall be identified by the Agreement name and Agreement number. All invoices are to be delivered or mailed to the following location:

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

- 5.1.7 The Houston Airport System will accept invoices submitted electronically along with required support information; such as Outline Agreement Number(s), Service Release Orders (SRO) Numbers, Timecards etc. Each invoice should be in a "PDF" or "TIFF" format. Multiple invoices can be submitted in a single email. Requirements are as follows:

Submit invoices in "PDF" or "TIFF" format

Submit to has.accountspayable@houstontx.gov

6.0 PERFORMANCE BOND

- 6.1 The successful Contractor shall furnish and maintain a Performance Bond in the amount One-hundred Percent (100%) of the annual contract rate conditioned on Contractor's full and timely performance of the Agreement. The bond shall be renewed annually on the anniversary date of the contract award each Agreement Year. The Agreement Term shall be ten years.
- 6.2 The Performance Bond shall be in the same form as that distributed by the City, and attached hereto as **Exhibit "VIII,"** all duly executed by this bidder (as "Principal") and by a corporate surety company licensed to do business in the State of Texas. The surety must be listed on the current list of accepted sureties on federal bonds published by the United States Treasury Department.

7.0 SERVICE LIFE RENEWAL

- ~~7.1 Service Life Renewal projects may be required to meet desired reliability or to extend the service life of the Aircraft Support Systems. These services are not covered under Basic Maintenance and Operations Services. Contractor may perform Service Life Renewal work in accordance with all provisions of this Agreement, plus any special provisions issued with authorization for work, so long as the specific provisions are consistent with, and related to the scope of work. All requests for Service Life Renewal projects shall be in writing in the form of a Service Life Renewal Request provided by the Director and signed by the Director or his/her designated representative. Contractor shall perform Service Life Renewal work to the same standards identified for Basic Operations and Maintenance Services.~~

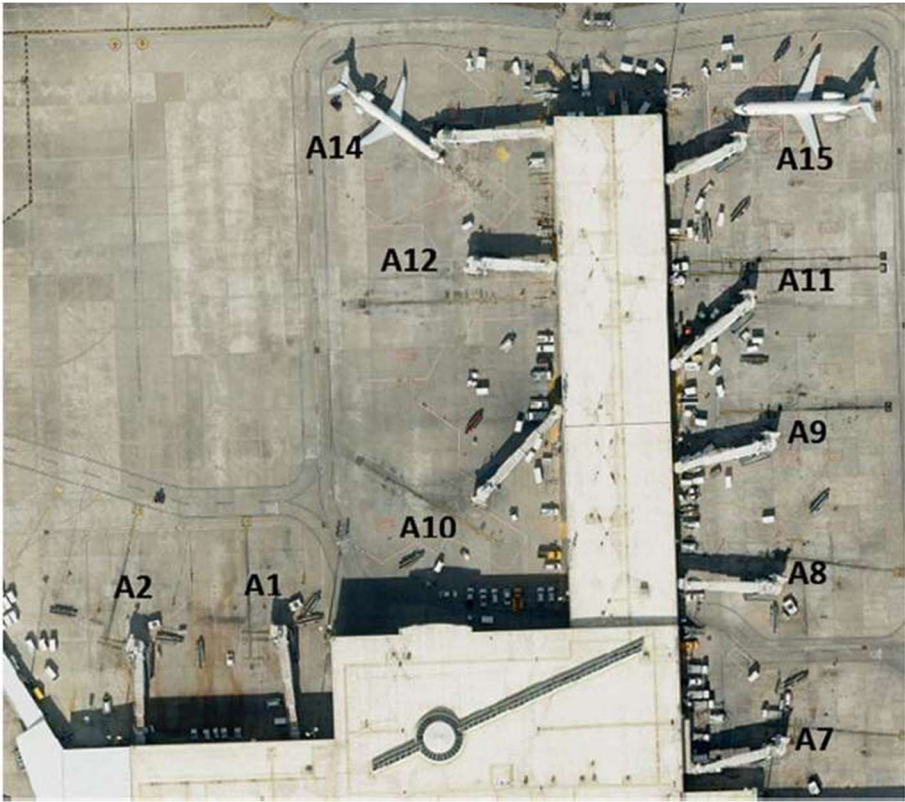
APPENDIX "I"
AIRCRAFT SUPPORT SYSTEM DESCRIPTION

TERMINAL "A" GATE LOCATIONS
ALL GATES COVERED UNDER AIRCRAFT SUPPORT SYSTEMS MAINTENANCE CONTRACT

Terminal A South



Terminal A North



Terminal A Passenger Boarding Bridge (PBB) & Gate Equipment List

Gate	Equipment	Manufacturer	Model	Back Flow Preventer	Serial	Install Year
A1	PBB	JETWAY	AD3 60/119-125R	YES	38961	Jan-00
	PWC	FMC	JF300		38961	
	GPU	FCX	PFC072-H-40-FM		9026	
	GPU 28V	Hobart	6T28-600CL		111PS16213	
	PCA	INET	PDX25S		98-6125-015	
	RTU	TRANE	TCDO49C400BD		R37100764D	
A2	PBB	JETWAY	AD3 60/119-125R	YES	38962	Sep-00
	PWC	FMC	JF 301C		38962	
	GPU	FCX	PFC072-H-40-FM		90002	
	GPU28V	HOBART	6T28-600CL		111PS16215	
	PCA	INET	POX 25S		98-6122-011	
	RTU	TRANE	TCDO49C400BD		R35102986D	
A7	PBB	JETWAY	AD3 60/119-125R	YES	38959	Sep-00
	PWC	FMC	JF 300		38959	
	GPU	FCX	PFC072-H-40-FM		90024	
	GPU28V	HOBART	6T28-600CL		111PS6217	
	PCA	INET	25S		98-6122-008	
	RTU	TRANE	TCCO48F400BC		UNKNOWN	
AS	PBB	JETWAY	AD3 60/119-125R	YES	38960	Sep-00
	PWC	FMC	JF301C		38960	
	GPU	FCX	PFC072-H-40-FM		90027	
	GPU28V	HOBART	6T28-600CL		111PS16212	
	PCA	INET	25S		98-6122-009	
	RTU	TRANE	TCCO48F400BC		UNKNOWN	
A9	PBB	JETWAY	AD3 60/119-125R	YES	38963	Sep-00
	PWC	FMC	JF301C		38963	
	GPU	FCX	PFC072-H-40-FM		89818	
	PCA	INET	25S		98-6122-016	
	RTU	TRANE	TCDO49C400BD		R35102953D	
A10	PBB	JETWAY	AD3 68/141-125R	YES	38973	Sep-00
	PWC	FMC	JF301C		38973	
	GPU	FCX	PFCO72-H-40-FM		UNKNOWN	
	PCA	INET	PDX25S		98-6122-010	
	RTU	TRANE	TCDO49C400BD		R37100764D	

Terminal A Passenger Boarding Bridge (PBB) & Gate Equipment List

Gate	Equipment	Manufacturer	Model	Back Flow Preventer	Serial	Install Year
A11	PBB	JETWAY	AD3 64/131-125R	Yes	38971	Sep-00
	PWC	FMC	JF301C		38971	
	GPU	FCX	PFC072-H-40-FM		89810	
	PCA	INET	25S		98-6122-013	
	RTU	TRANE	TCDO49C400BD		R38102703D	
A12	PBB	JETWAY	AD3 60/119-125R	YES	38964	Sep-00
	PWC	FMC	JF301C		38964	
	GPU	FCX	PFCO072-H-40-FM		90021	
	PCA	INET	PDX25S		98-6122-012	
	RTU	TRANE	TCDO49C400BD		R37104005D	
A14	PBB	JETWAY	AD3 60/119-125R	YES	38966	Sep-00
	PWC	FMC	JF301C		38966	
	GPU	FCX	PFC072-H-40-FM		90023	
	PCA	INET	PDX25S		98-6122-014	
	RTU	TRANE	TCDO49C400BD		UNKNOWN	
A15	PBB	JETWAY	AD3 60/119-125R	YES	38965	Sep-00
	PWC	FMC	JF301C		38965	
	GPU	FCX	PFC072-H-40-FM		90025	
	PCA	INET	25S		98-6122-007	
	RTU	TRANE	TCDO49C400BD		R35102497D	
A17	PBB	JETWAY	AD3 58/110-125R	YES	38244	Oct-12
	PWC	FMC	JF-201C		1078-PB	
	GPU	JP2	J-090-115-B1-001		PA-6899	
	PCA	JETAIRE	XPC 6013-113-17-40		63984	
	RTU	TRANE	TCCO48F400BB		UNKNOWN	
A18	PBB	JETWAY	A3 58/110-125R	YES	38243	Jul-15
	PWC	FMC	JF-201-C		1074-PB	
	GPU	JP2	J-090-115-B1-001		PA-6898	
	PCA	JETAIRE	XPC 6013-113-17-40		64695	
	RTU	TRANE	TCCO48F400BB		UNKNOWN	
A19	PBB	JETWAY	A3 58/110-125R	YES	38242	Jan-16
	PWC	FMC	JF-201C		1077-PB	
	GPU	JP2	J-090-115-B1-001		UNKNOWN	
	PCA	JETAIRE	XPC 6013-113-17-40		64802	
	RTU	TRANE	TCCO48F400BB		UNKNOWN	

Terminal A Passenger Boarding Bridge (PBB) & Gate Equipment List

Gate	Equipment	Manufacturer	Model	Back Flow Preventer	Serial	Install Year
A24	PBB	JETWAY	A3 58/110-125R	YES	38241	Jul-15
	PWC	FMC	JF-201C		1076-PB	
	GPU	JP2	J-090-115-BI-001		PA-6896	
	PCA	JETAIRE	XPC 6013-113-17-40		64696	
	RTU	TRANE	TCCO48F400BB		UNKNOWN	
A25	PBB	THYSSEN	41-245-2R	NO	757	Aug-99
	PWC	SEMLER	N/A		11918	
	GPU	FCX	PFC072-H-40-FM		89815	
	GPU28V	HOBART	6T28-600CL		111PS16214	
	PCA	JETAIRE	XPC 6013-113-17-40		UNKNOWN	
RTU	RUUD	ULKA-A048DL	5670F219712845			
A26	PBB	THYSSEN	35/21-2R	NO	759	Jan-16
	PWC	SEMLER	N/A		11917	
	GPU	FCX	PFC072-H-40-FM		89811	
	GPU28V	HOBART	6T28-600CL		111PS16216	
	PCA	JETAIRE	XPC 6013-113-17-40		64803	
RTU	RUUD	ULKA-A048DL	11917			
A27	PBB	THYSSEN	35/21-2R	NO	102	Aug-99
	PWC	SEMLER	N/A		11916	
	GPU	FCX	PFC072-H-40-FM		89820	
	PCA	INET	25S		98-6112-001	
	RTU	RUUD	ULKA-A048DL		5670F159913342	
A29	PBB	THYSSEN	35/21-2R	NO	760	Aug-99
	PWC	SEMLER	N/A		11913	
	GPU	FCX	PFC072-H-40-FM		UNKNOWN	
	PCA	INET	25S		98-6122-002	
	RTU	RUUD	ULKA-A048DL		5670F159913341	
A30	PBB	THYSSEN	35/21-2R	NO	761	Aug-99
	PWC	SEMLER	N/A		11915	
	GPU	FCX	PFC02-H-40-FM		8986	
	PCA	INET	25S		98-6122-004	
	RTU	RUUD	ULKA-A048DL		5670F319934956	

APPENDIX "I" AIRCRAFT SUPPORT SYSTEM DESCRIPTION

AIRPORT TERMINAL GATE SYSTEMS(\$)

- 1.1 **Gate Systems** - The thirty-three (33) existing Airport Terminal Gate System(s) located at Terminals A and D include Passenger Boarding Bridges (PBB), 400Hz Ground Power Units (GPU), 28.5 VDC Ground Power Units (GPU), Preconditioned Air Units (PCA), Potable Water Cabinets (PWC), Rooftop Air Units (RTU), and other auxiliary equipment. Terminal Gate Systems at Terminal D also include Aircraft Guidance Systems.

- 1.2 **Terminal A** - The nineteen (19) gates are inclusive of all related parts, systems, and accessories. Maintenance items on Gates include, but are not limited to, mechanical, electrical, and electronic systems, engines, motors, pumps, compressors, fans, belts, cables, computers, instrumentation, controls, alarms, indicator lights, tires, suspension, steering devices, drive mechanisms, bearings, seals, rollers, and doors. Electrical service includes power circuit breakers, power and instrument transformers, surge protection devices, relays, and secondary breakers serving motor controls up to but excluding main disconnects in primary switchboards serving motor controls and starters. System details are provided below.
 - 1.2.1 Gates A17, A18, A19, and A24 identified above include the following equipment:
 - 1.2.1.1 Self-Contained PCA Unit JetAir Model XPC-6013-113-17-40
 - 1.2.1.2 400Hz power is supplied by self-contained units by FMC J-90-115-B1-001 (one each per gate)
 - 1.2.1.3 Fire Extinguisher, 10 lb.
 - 1.2.1.4 400 HZ Interlock
 - 1.2.1.5 400 HZ, Pre-Conditioned Air, Portable Water Indicator Lights
 - 1.2.1.6 737 Bumper Cutout
 - 1.2.1.7 1500 CFM Exhaust Fan
 - 1.2.1.8 A-300 Closure Modification
 - 1.2.1.9 Articulating Cab Floor
 - 1.2.1.10 Bridge, 400 Hz and Pre-Conditioned Air Monitoring and Cable
 - 1.2.1.11 Bumper Limit Switches
 - 1.2.1.12 Swinging Cap Doors
 - 1.2.1.13 Dual Plug Modular Telephone Outlet
 - 1.2.1.14 "A" Frame
 - 1.2.1.15 Emergency Lights
 - 1.2.1.16 Fire Alarm Pull Box
 - 1.2.1.17 Heated Portable Water Cabinet
 - 1.2.1.18 Hurricane Tie Downs
 - 1.2.1.19 Lighting Ground Stud
 - 1.2.1.20 Maintenance Ladder with Cage
 - 1.2.1.21 Roof Handrail
 - 1.2.1.22 Smoke Detection Device (two each per gate)
 - 1.2.1.23 Triangular Gate Identification Sign, Illuminated Style
 - 1.2.1.24 Gates A1, A2, A7, and A8 include Bumper Extensions

- 1.2.2 Gates A1, A2, A8, A9, A10, A11, A12, A14, and A15 include the equipment listed above with the exception of the following:
- 1.2.2.1 400Hz power is supplied by self-contained units by FCX Model No. PFC072-H-40-FM (one each per gate)
 - 1.2.2.2 Pre-Conditioned Air is supplied by self-contained Pre-Conditioned Air Unit INET Model PDX25S
 - 1.2.2.3 Roof Top AC Unit (RTU) Trane Model TCDO49C400BC
 - 1.2.2.4 Portable Water Cabinet (PWC) Jetflo Model JF301C
- 1.2.3 Gates A25, A26, A27, A29, and A30 identified above include the equipment listed above except for the following:
- 1.2.3.1 400 HZ power is supplied by self-contained units by FCX Model No. PFC072-H-40-FM-12P (one each per gate)
 - 1.2.3.2 Pre-Conditioned Air is supplied by self-contained Pre-Conditioned Air Unit JETAIR XPC-6013-113-17-40 at gates A25, A26 and INET Model PDX25S at gates A27, A29 and A30.
 - 1.2.3.3 Roof Top AC Unit (RTU) RUUD Model WLKA-A048DL
 - 1.2.3.4 Portable Water Cabinet (PWC) Semler Model S1-1500

~~1.3 Terminal D – The fourteen (14) existing Terminal D PBBs include the following equipment:~~

~~1.3.1 400 Hertz Ground Power System~~

~~1.3.2 The Central 400 Hz System was designed and supplied by McCormick Morgan, Inc., as a ground power generation and distribution system with capability to support twelve (12) aircraft parking positions at Terminal D gates. This system supports 3 gates (Gates 6, 8, and 10). The motor generators are in Terminal D Room 005 on Level 74. They supply 312 KVA each. From Room 005, 575 Volt 400 Hz power is distributed to the gates thru individual Micro Versatrip circuit breakers in distribution panel DP 1. The gates require a line drop compensator downstream of the DP 1. The line drop compensators are located adjacent to the distribution panel. The distribution cable is routed in an underground duct system to each gate. The power is carried over the bridge and to the gate box by the utility carrier. The output of the gate box is connected to the aircraft cable in the cable retriever. The system comprises the following major components:~~

~~1.3.2.1 Hobart No. 312VP61 Motor Generators~~

~~1.3.2.2 General Electric DP 1 400Hz Distribution Panel~~

~~1.3.2.3 Hobart No. 482951B-2 Line Drop Compensator~~

~~1.3.2.4 INET Dual Output 180 KVA 400 Hz Gate Box~~

~~1.3.2.5 INET Single Output 28.5 VDC Gate Box~~

~~1.3.2.6 400 Hz Aircraft Cable~~

~~1.3.2.7 Remote Pushbutton Station~~

~~1.3.2.8 INET Cable Hoist~~

~~1.3.3 Preconditioned Air System – Preconditioned Air is delivered from a Trane Centrifugal Chiller System that delivers heated or cooled air to aircraft at Three (3) Gates 6, 8 and 10. The preconditioned air system chills a mixture of glycol and water and distributes it through a piping system to air handler units mounted under each passenger loading bridge at Terminal D Gates 6, 8 and 10. Outside air is taken into the air handler unit where it is cooled and dehumidified by a coil supplied with the chilled glycol mixture or heated by an electric heater. The conditioned air is then ducted to the aircraft ground services air conditioning inlet for distribution to the cockpit and passenger compartments. The system comprises the following major components:~~

~~1.3.3.1 INET System Models PAC 40L Air Handler Units.~~

APPENDIX "III"
HAS ENTERPRISE ASSET MANAGEMENT SYSTEM (EAMS)

APPENDIX "III"
HAS ENTERPRISE ASSET MANAGEMENT SOLUTION (EAMS)

- 1.0 As part of Basic Services, immediately after receipt of Notice to Proceed, the Contractor shall comply with HAS' Technology policies and best practices regarding the use of HAS infrastructure, technology assets, and HAS Enterprise Asset Management System (currently an INFOR-based Enterprise Asset Management system).
- 2.0 **HAS ENTERPRISE ASSET MANAGEMENT SYSTEM (EAMS) - BEST MANAGEMENT PRACTICES, INDUSTRY STANDARD, AND REACTIVE SERVICES**
- 2.1 **General Description**
- 2.1.1 As part of the O&M services, contractor shall solely utilize the Houston Airport's Enterprise Asset Management System (EAMS). The contractor shall comply with HAS' policies and best practices regarding the use of HAS infrastructure, technology assets, and HAS EAMS. The condition and disposition of all assets supported, on behalf of HAS, shall be documented and maintained in HAS' EAMS which includes system component nomenclature, scheduled preventive, corrective maintenance, and all other work order activity. Documented assets shall be in alignment with HAS asset hierarchy principles, location and asset naming convention. Technologies utilized as a result of this Agreement are subjected to HAS governance, security, and life cycles.
- 2.1.2 HAS retains all right, title, interest and full ownership of any work, invention, and all Agreement documents including all software, EAMS-dedicated hardware, computer applications, preliminary plans, reports, or any modifications or improvements to the data at all times.
- 2.1.3 Contractor shall notify HAS of any changes to EAMS asset inventory data due to commissioning/decommissioning of assets related to this Agreement. Contractor shall submit the inventory changes in an approved HAS format. Throughout the Agreement, Contractor will replace HAS barcodes/QR codes on maintained assets as needed (missing, unreadable, new/replaced asset). The HAS barcodes/QR codes will comply with HAS EAMS standards.
- 2.1.4 Utilize EAMS including maintenance trending and tracking to reduce repair costs and optimize system operation efficiency. The Contractor is responsible for training and familiarization of HAS current EAMS software. For the duration of the Agreement, the Contractor is also required to attend HAS EAMS training regarding the EAMS hierarchy familiarization, user/system rights, and other HAS approved workflow processes. HAS EAMS training includes 4-8 hours by EAMS user. Contractor shall comply with HAS Design Standards and HAS sustainability/Sustainable Asset Management Policy.
- 2.1.5 EAMS Maintenance Management System driven schedule of planned maintenance actions on the Aircraft Support Systems Maintenance and Operation Services Agreement in accordance with OEM equipment manufacturer's instructions and in accordance with the best preventive maintenance industry practices for the prevention of equipment breakdowns and failures. Contractor shall develop a PM schedule so as to complete PM's on equipment within the manufacture's recommendations and the Agreement's Level of Service (LOS).
- 2.1.6 As part of the O&M services, Contractor shall utilize the Houston Airport's Enterprise Asset Management System (EAMS). The Contractor shall comply with HAS' policies and best practices regarding the use of HAS infrastructure, technology assets, and HAS Enterprise Asset Management Solution. The condition and disposition of all Aircraft Support Systems Maintenance Agreement related assets supported, on behalf of HAS, shall be documented and maintained in HAS' EAMS which includes scheduled preventive, corrective maintenance, and all other work order activity. Documented assets shall be in alignment with HAS asset hierarchy principles, location and asset naming convention. Technologies utilized as a result of this agreement are subject to HAS governance, security, and life cycles.

- 2.1.7 Contractor shall notify HAS of any changes to EAMS asset inventory data due to commissioning / decommissioning of assets related to this Agreement. Contractor shall submit the inventory changes in an approved HAS format. Throughout the Agreement, Contractor will replace HAS barcodes/QR codes on maintained assets as needed (missing, unreadable, new/replaced asset). The HAS barcodes/QR codes will comply with HAS EAMS standards.
- 2.1.8 At or within 60 days after "Start Phase in Notice", Contractor shall survey the equipment and parts listed in Appendixes I, II, and VI and provide a list of discrepancies to HAS in a report titled, "Existing Building/Equipment Discrepancies Report." The report should be in an approved HAS format. The Existing Building/Equipment Discrepancies Report will be used to reconcile differences in the Contractor's bid items and EAMS.
- 2.1.9 One year prior to the expiration of the Agreement Term, Contractor shall certify to the Director a complete equipment listing in EAMS of all Aircraft Support Systems Maintenance equipment. Listing must include identification number, description, location, model/serial number, area served, condition, and age of equipment.
- 2.1.10 All equipment PM sheets, schedules, and other records must be available in EAMS for inspection by HAS personnel. All documents generated or obtained by Contractor that pertain to the operation and maintenance of the Aircraft Support Systems Maintenance Agreement and equipment shall become HAS property upon Agreement expiration or termination. All such documents shall be transferred to the Director within ten (10) days of expiration or termination. All records must also be available in EAMS.
- 2.1.11 The EAMS will establish the required Preventive Maintenance / Corrective Maintenance baseline labor hours by type of equipment which must be approved in writing to the Director.
- 2.1.12 If no EAMS historical data is available, the accepted source is Facilities Maintenance & Repair Cost Data, latest edition R.S. Means Company or later version and/or another HAS approved source.
- 2.1.13 Within sixty (60) days of the award of Agreement Contractor shall provide preventive maintenance (PM), predictive maintenance (PdM), and reliability centered maintenance (RCM) plans for HAS review and approval. The Contractor shall submit the maintenance plans in a HAS approved format. HAS will generate the approved PM, PdM and RCM plans and work orders in EAMS. Any requested changes by the Contractor to PM, PdM and RCM plans will require HAS review and approval. Once changes are approved, they shall be submitted in a HAS approved format thirty (30) days prior to schedule due date of work to be performed.
- 2.1.14 All Corrective Maintenance (CM) shall be documented in EAMS.

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APPENDIX "IV"
PAY FOR PERFORMANCE PROGRAMS

APPENDIX "IV"
PAY FOR PERFORMANCE PROGRAMS

1.0 PERFORMANCE OBJECTIVES:

- 1.1 Contractor shall include with their bid a plan to meet or exceed the performance objective listed below.
- 1.2 Performance Objective deductions listed in this section will be reported for the airport.
- 1.3 Key Performance Indicators (KPI).
- 1.4 As an ongoing effort for HAS to maintain all assets in an "opening day fresh condition", the units covered under this agreement have been classified under one of three performance levels. These are Best Management Practices, Industry Standard, and Reactive Services. Contractor shall be responsible for ensuring the performance of each unit meets or exceeds its prescribed performance level.
- 1.5 Units shall be grouped together based upon their performance level for KPI tracking. KPI's shall be measured using System Availability, Scheduled Operational Time, and Repair Time as defined in the definitions section of this agreement.
- 1.6 For the first ninety (90) calendar days following Notice to Proceed, the Contractor shall not be responsible for KPI performance results or subject to any performance deductions.
- 1.7 Beginning with calendar day ninety-one (91) following the Notice to Proceed, Contractor shall maintain the following minimum performance for each KPI at each of the three performance levels:

2.0 SYSTEM AVAILABILITY:

- 2.1 For the first ninety (90) calendar days following Notice to Proceed, System Availability Deductions will not apply.
- 2.2 Beginning with calendar day ninety-one (91) following the Notice to Proceed, Contractor shall maintain a separate System Availability consisting of all assets listed in Appendix I Aircraft Support Systems through the remainder of this Agreement.
- 2.3 When Performance Objective falls below its target value during a reporting period, a performance deduction may be applied at the discretion of HAS for each percentage point or fraction of a point below its target. Contractor shall incur a deduction (on the next monthly invoice) based upon tables in Section 3.6.3 of Appendix IV.
- 2.4 Key Performance Indicators Minimum Value Table:

Systems	Best Management Practices	Industry Standard	Reactive Services
PBB's	99.50%	99.30%	99.00%

3.0 DEDUCTIONS BASED ON EQUIPMENT NON-OPERATIONAL TIME:

- 3.1 **At no time will safe work practices be compromised or not followed!** Deductions will be applied to equipment non-operational periods in accordance with the following plan:
 - 3.1.1 A deduction for failure to achieve the required performance levels, as specified within this document, shall be assessed as follows:
- 3.2 The Performance Requirements shall be measured in terms of "Availability" of the PBB and affiliated equipment. The time duration (**measured in hours**) of maintenance outages, "Tracking Accuracy", bridge downtime, maintenance outages all of which are defined below.

Availability (A):

3.2.1 In the following, Availability "A" = Scheduled Operational Time ("ST") minus Repair Time ("RT") divided by Scheduled Operation Time ("ST").

3.2.1.1. $\frac{ST-RT}{ST} = A$

3.2.1.2. ST

3.2.2 Example: The Scheduled Operational Time for the month of April is 27,540 hours; the Repair Time is 150 hours.

3.2.2.1. $\frac{27,540 - 150}{27,540} = 99.455\%$

3.2.2.2. 27,540

3.2.3 The performance per asset for the month of April will be 99.45%.

3.2.3.1. *The 3rd digit will not be roundup or round down when calculating Availability.*

3.2.4 The Availability will be measured and reported daily. For the purpose of deductions, it will be measured on a calendar month basis.

3.3 Scheduled Operational Time (ST):

3.3.1 Total hours required to operate for air carrier or customer requirements. Operational is defined as fully functioning as designed by the equipment manufacturer. The Scheduled Operational Time is defined as planned time that it is needed for operation.

3.3.2 Example: The number of Assets for the month of April is 51, the Operational Hours is currently 18 hours and the number of days for the month of April is 30. The Operational Hours for the month of April will be 27,540.

3.3.2.1. $51 \times 18 \times 30 = 27,540$ (Operational hours in April)

3.4 Repair Time (RT):

3.4.1 Repair Time is the combined total of all system repair time, system non-operational time, where the contractor has been notified by an Authority representative that an asset requires repair. Repair time is also counted for issues reported by the Contractor that result in non-operational time greater than fifteen (15) minutes. Repair time is accumulated to a total for the calendar month.

3.4.2 Individual Repair Time events are defined as the interval of time from the notification of the contractor of a required repair until the contractor's technician has remedied the problem, returned the system to operation and called the Authority with notification that the asset is back in service. Example: 150 hours in April, of total Repair Time.

3.4.3 Individual Repair Time events may be caused by any malfunction of the PBB, any subsystem, affiliated equipment or component, assembly, or sub assembly, which stops operations beyond six (6) minutes. The following shall not be classified as failures: Malfunctions due to causes outside of the system or equipment such as sabotage, power outage not related to PBB Contractor responsibility, EDS machine downtime etc.

3.5 Tracking Accuracy:

3.5.1 All non-operational time reported to the Contractor by an Authority's representative is counted towards the accumulated monthly total of repair time, regardless of the time of day or night as long as the system is expected to be operational for the use of our customer air carriers.

3.5.2 The Contractor is encouraged to pro-actively find and remedy issues during the operational day. A fifteen (15) minute grace period will be granted per asset per day for any discrepancies

identified by the Contractor's personnel. Any non-operational time greater than fifteen minutes during the operational day proactively initiated by a Contractor representative will be counted as repair time for the monthly Repair Time (RT) total. All Repair Time is accumulated into a grand total for the calendar month.

- 3.5.3 The Contractor shall maintain all tracking devices and other related components to achieve continuous tracking accuracy of no less than ninety-six (96.0%) percent calculated and reported on a monthly basis.

3.6 Applicable Deductions:

- 3.6.1 The Key Performance Indicators Minimum Value (Table in 2.4) will always be expected for the specified level of service. Based on the April example of 99.455%, if the LOS is Best Management Practices, April's performance is 0.05% below the minimum acceptable standard. Therefore, based on the chart listed in 3.6.3. below of Appendix IV, the deduction will be \$5,000.

- 3.6.2 The sum of all performance deductions under Appendix IV & V of this agreement shall not exceed 2 percent (%) of the total annual basic service fee amount for the current Agreement year or previous 12 months whichever is greater.

- 3.6.3 The following scale will be utilized to determine monthly applicable performance deductions:

3.6.3.1. PBB BEST MANAGEMENT PRACTICES LEVEL OF SERVICE

PERCENTAGE PERFORMANCE RATE	DEDUCTIONS
99.49 - 98.50	\$5,000
98.49 - 97.50	\$10,000
< 97.49	\$15,000

3.6.3.2. PBB INDUSTRY STANDARD LEVEL OF SERVICE

PERCENTAGE PERFORMANCE RATE	DEDUCTIONS
99.29- 98.30	\$2,500
98.29- 97.30	\$5,000
< 97.29	\$7,500

- 3.6.4 System availability deductions will not apply for Reactive Services level of service.
- 3.6.5 Any two (2) consecutive months below performance standards will require that the contractor submit a written corrective action plan to the Director.
- 3.6.6 Any three (3) months of performance below performance standards (months do not need to be consecutive) during a rolling twelve (12) month period may result in the potential termination of the Agreement.
- 3.6.7 The amount of a resulting deduction for equipment non-operational time is based upon the amount of time the equipment has been out of service or not performing properly. Deductions shall only apply to equipment systems that fail to operate as/when needed and/or while in use. This deduction does not apply to equipment/systems that are purposefully removed from service by HAS.
- 3.6.8 When equipment downtime is extended because repair parts need to be ordered, the total amount of the deduction may be adjusted at the sole discretion of the Director based on, the availability of parts, age of the asset, probability of a failure, the expediency of the part shipping/delivery arrangements made by the Contractor, etc. The contractor has full responsibility to ensure that all parts necessary for the maintenance or repair of the PBB, and affiliated equipment are on hand and available at the immediate time of need.

3.7 Deductions and Adjustments

- 3.7.1 All deductions indicated below are in addition to any other deduction or fine that may be imposed by other agencies or authorities and does not limit any other remedies provided in the Agreement documents, including termination. Deductions will be identified through written communication from the Director.
- 3.7.2 Late or Slow Response to Callback, Service Call/Request or Equipment Malfunction:
- 3.7.2.1. When a late or slow response time is identified and required herein, may be subject to a deduction of Two Hundred Fifty (\$250.00) per incident, at the discretion of the Director. It is expected that a Contractor's representative will respond to all emergencies and jam calls within five (5) minutes of the call and for nonemergency calls within fifteen (15) minutes. Other applicable deductions outlined in this document may be imposed in addition to this deduction.
- 3.7.3 Recurring and Repeating Problems:
- 3.7.3.1. The Director will review return calls to fix a recurring problem with the same asset. If in the discretion of the Director appropriate corrective action/repairs were not completed on the first response (or subsequent responses), the Director may impose a deduction of Two Hundred Fifty (\$250.00) per incident.
- 3.7.4 PM Work Completion:
- 3.7.4.1. The required goal for completion of monthly PM's on all assets is one hundred percent (100%). Deductions will apply when the completed percentages fall with the falling scale:

4.0 BEST MANAGEMENT PRACTICES & INDUSTRY STANDARD LEVEL OF SERVICE

PERCENTAGE COMPLETION	DEDUCTIONS
99.99- 97.00	\$2,500
96.99- 95.00	\$5,000
< 94.99	\$7,500

- 4.1 Scheduled PM Work within the Calendar Month includes closing out all Work Orders on or before schedule end date.
- 4.1.1 The tracking of this performance measurement shall be done by the EAMS software. Work completed in the final days of a calendar month will not be counted as complete unless proper documentation has been fully completed in the EAMS system. Work completed in the last days of the month must be input by the end of the last day of the month to be considered complete. There is no forty-eight (48) hour allowance for entry into EAMS in this circumstance. The Contractor will not be held responsible for delays in completing PMs due to circumstances beyond its control or responsibility; however, the Contractor shall be responsible to document such circumstances and provide documentation to the Director at the end of the month.
- 4.1.2 Failures or outages of systems due to third party damage, force majeure, scheduled maintenance, a request by HAS to remove a unit from service temporarily, regulatory inspections or work completed under an HAS approved Work Area Notice (WAN) will not be used in determining System Availability.
- 4.2 All outages of Aircraft Support Systems that are reported to the Contractor through Maintenance Dispatch shall count toward the System Service Availability. The outage event will begin with the time that the unit is reported out of service to Maintenance Dispatch and will end when the Contractor closes the ticket through Maintenance Dispatch once the unit has been repaired to acceptable condition and returned to

public service. The method for downtime accountability may be changed during the course of this Agreement if mutually agreed to by both parties.

- 4.3 All times used in conjunction of reporting out of service times should originate from Maintenance Dispatch.
- 4.4 Contractor shall maintain the System Availability and submit it monthly for HAS approval. HAS may request the System Availability Report at any time.
- 4.5 Contractor shall report System Availability as follows:
- 4.6 Monthly availability for the period should be reported seven (7) days following the end of the month to the appropriate airport designee.
- 4.7 The cumulative availability should be reported each month to the appropriate airport designee.
- 4.8 System Availability shall be a cumulative percentage total of all in-service units for the reporting period.
- 4.9 For any calendar month during this Agreement that the minimum System Service Availability specified in Section 2.0 of this Agreement is not met, or performance records indicate it will not be met, Contractor, at its expense, shall promptly undertake reviews and analyses, including a review of maintenance procedures, and shall propose a plan to the director within fourteen (14) calendar days to correct the problem(s). Corrections necessary to meet these requirements shall be made by Contractor at no additional cost to the City. Immediately after the Director's approval of corrective action(s), Contractor shall make the corrective action(s) to mitigate the cause. Corrective actions shall be documented in a Failure Analysis and Correction report. A Failure Analysis and Correction report shall be issued by the Contractor when the success of the corrective action can be substantiated.

5.0 **UNIT AVAILABILITY**

- 5.1 **Units will have Preventive Maintenance performed under Best Management Practices and Industry Standard.**
 - 5.1.1 When a system is out of service, it may substantially harm the City, its citizens, and the traveling public.
 - 5.1.2 If an out of service condition exists for longer than two (2) hours, a performance deduction shall be applied until the unit is returned to public service.
 - 5.1.3 After the second hour, HAS may impose a performance deduction of \$75.00 per hour or fraction of an hour that a unit is not available to the public.
 - 5.1.4 The deductions apply to aircraft support system, support equipment and related components separately; therefore, simultaneous breakdowns of several units may invoke multiple deductions. Refer to this Appendix and "V".
 - 5.1.5 Pay for Performance Programs and Liquidated Damages deductions will be limited to 2 percent (%) of the total Basic Services cost per Agreement year.
 - 5.1.6 The Director shall be the final authority on whether or not a deduction is invoked. When a deduction has been invoked, Contractor shall calculate such deduction and include it on the next invoice.

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APPENDIX "V"
LIQUIDATED DAMAGES

APPENDIX "V"
LIQUIDATED DAMAGES

- 1.0 In addition to the termination rights, Article V, and all other legal and equitable remedies, Director shall have the discretionary right to assess liquidated damages in amounts not to exceed the amounts set forth below on a per occurrence basis and as may be described in other sections of this Agreement. Contractor shall pay any assessment of liquidated damages and include deductions on the next invoice for Basic Services. Multiple liquidated Damages may be applicable.
- 2.0 Pay for Performance Programs and Liquidated Damages deductions will be limited to 2% of the total Basic Services cost per Agreement year.
- 3.0 **Liquidated Damages Matrix- Best Management Practices**

Performance	Liquidated Damage
Failure to perform Other Work Services (OSR) in the time period specified in the OSR	\$250.00 per 48-hour period
Failure to provide a written OSR Quote within (5) five days of receipt of Director's request for an OSR	\$150.00 per 48-hour period
Contractor fails to meet the minimum staffing levels as agreed for 2 consecutive weeks	\$1,000.00 per person per 48-hour period
Failure to meet response times as defined in the Agreement	\$500.00 per occurrence
Contractor fails to provide reports/accurate operational data to HAS within defined reporting periods	\$250.00 per day until report is provided

4.0 **Liquidated Damages Matrix- Industry Standard**

Performance	Liquidated Damage
Failure to perform Other Work Services (OSR) in the time period specified in the OSR	\$250.00 per 48-hour period
Failure to provide a written OSR Quote within (5) five days of receipt of Director's request for an OSR	\$150.00 per 48-hour period
Contractor fails to meet the minimum staffing levels as agreed for 2 consecutive weeks	\$750.00 per person per 48-hour period
Failure to meet response times as defined in the Agreement	\$375.00 per occurrence
Contractor fails to provide reports/accurate operational data to HAS within defined reporting periods	\$250.00 per day until report is provided

5.0 Liquidated Damages Matrix- Reactive Services

Performance	Liquidated Damage
Failure to perform Other Work Services (OSR) in the time period specified in the OSR	\$250.00 per 48-hour period
Failure to provide a written OSR Quote within (5) five days of receipt of Director's request for an OSR	\$150.00 per 48-hour period
Contractor fails to meet the minimum staffing levels as agreed for 2 consecutive weeks	\$500.00 per person per 48-hour period
Failure to meet response times as defined in the Agreement	\$250.00 per occurrence
Contractor fails to provide reports/accurate operational data to HAS within defined reporting periods.	\$250.00 per day until report is provided

6.0 Notwithstanding the foregoing, the Director shall not be entitled to assess Liquidated Damages under any of the following circumstances:

- 6.1 Force Majeure
- 6.2 Third Party Damage
- 6.3 Upgrades/modifications set forth in the Agreement.
- 6.4 Damages to Aircraft Support equipment that is caused solely by the acts of the City.

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