CITY OF HOUSTON
HOUSTON AIRPORT SYSTEM
REQUEST FOR INFORMATION (RFI)
SOLICITATION NO.: H37-EIPIAH-2017-018
ENERGY INITIATIVES PROJECT
at George Bush Intercontinental Airport (IAH)

Date Issued: February 3, 2017

Pre-Submittal Conference: February 14, 2017, 10:00 A.M.
Supply Chain Management Office
18600 Lee Rd.
Humble, TX 77338

Questions Deadline: February 17, 2017 @ 12:00 P.M. (Noon), CST

Solicitation Due Date: March 21, 2017 @ 2:00 P.M., CST

Solicitation Contact Person:
Andre' K. Morrow, C.P.M., CPPB
Sr. Procurement Specialist
Supply Chain Management, Houston Airport System
Andre.Morrow@houstontx.gov
281-233-1046

Project Summary: The Houston Airport System (HAS) is requesting information and input for innovative strategies and approaches to identify alternatives available to the City in connection with its anticipated procurement of the Energy Initiatives Project (Project) that will support George Bush Intercontinental Airport (IAH) directly, and moreover, offers the possibility of providing energy for the City's electrical loads. The Project is intended to provide energy to meet a demand at IAH in the order of 45-75MW, whereas an energy solution for the City's load could have a capacity in the range of 250MW.

MWBE Goal: Not Applicable

Devon Tiner, P.E., PMP
Interim Procurement Officer
Houston Airport System

Date

2/3/2017
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>OVERVIEW</td>
<td>3</td>
</tr>
<tr>
<td>2.0</td>
<td>PURPOSE</td>
<td>3</td>
</tr>
<tr>
<td>3.0</td>
<td>ABOUT THE PROJECT</td>
<td>4</td>
</tr>
<tr>
<td>4.0</td>
<td>PROJECT DELIVERY METHOD CONSIDERATIONS</td>
<td>7</td>
</tr>
<tr>
<td>5.0</td>
<td>RFI SCHEDULE</td>
<td>7</td>
</tr>
<tr>
<td>6.0</td>
<td>RFI RESPONSE SUBMITTAL</td>
<td>7</td>
</tr>
<tr>
<td>7.0</td>
<td>RFI RESPONSE - SUBMITTAL INSTRUCTIONS</td>
<td>8</td>
</tr>
<tr>
<td>8.0</td>
<td>QUESTIONS ON THE RFI</td>
<td>9</td>
</tr>
<tr>
<td>9.0</td>
<td>GENERAL TERMS</td>
<td>9</td>
</tr>
<tr>
<td>10.0</td>
<td>ADMINISTRATIVE INFORMATION</td>
<td>10</td>
</tr>
</tbody>
</table>

**EXHIBITS**

- Exhibit 1 – Configuration for Illustration Purposes Only
- Exhibit 2 – West Central Terminal Area
- Exhibit 3 – East Central Terminal Area
1.0 OVERVIEW

1.1 The City of Houston (City) is issuing this Request for Information (RFI) which continues the procurement process seeking to identify alternatives available to the City in connection with its anticipated procurement of the Energy Initiatives Project (Project) that will support George Bush Intercontinental Airport (IAH) directly, and moreover, offers the possibility of providing energy for the City’s electrical loads. IAH is the flagship airport of the Houston Airport System (HAS), which is a department of the City. The Project is intended to provide energy to meet a demand at IAH in the order of 45-75MW, whereas an energy solution for the City’s load could have a capacity in the range of 250MW.

1.2 The objective of this RFI and subsequent Request for Qualification/Proposal (RFQ/P) is to arrive at a recommended approach for HAS, its advisors, and the City to identify, procure, and implement a long-term energy Infrastructure improvement solution for IAH and the City. To that end, this RFI is directed to well-qualified businesses within the energy industry requesting information, recommendations, suggestions and guidance that may be used in preparing a RFQ/P to design and construct infrastructure to support IAH and the City’s current and future energy needs.

1.3 HAS has identified a significant need for the development of additional facilities at IAH to handle aircraft, passengers, and cargo departing to, and arriving from, domestic and international destinations on scheduled and chartered flights. To support the airlines’ growth plans in Houston, HAS and airlines will complete a major Capital Improvement Program, known as the IAH Terminal Redevelopment Program (ITRP or Program) that will include constructing a new 11-gate concourse (New Terminal C North currently under construction) undertaken by United Airlines and reconstructing and integrating the existing Terminal C North and Terminal D into a new single common-use international facility – the Mickey Leland International Terminal (MLIT).

1.4 The new and reconfigured facilities to be delivered by the ITRP will require an increase in power and expansion of the thermal energy infrastructure due to the numerous projects included in the Program. The Utilities Master Plan (UMP) prepared by HNTB and completed in September 2014, identified major upgrades to the Central Utility Plant (CUP), and recommended undertaking of the ITRP Enabling Utilities – Landside (EUL) project which, in part, would facilitate aggregating electrical services to the Central Terminal Area (CTA) from a single HAS-owned Electrical Power Station (EPS). Having the EPS connection point is anticipated to facilitate a spectrum of possible business benefits meeting the below stated goals of the Project. The Project will align with and complement the EUL which has been recently advertised.

2.0 PURPOSE

2.1 The purpose of this RFI is to seek input and solicit information about potential alternatives, approaches and strategies for the proposed Project from the energy industry at large, and particularly from energy project developers, energy suppliers, consultants, energy facility engineering-procurement-construction (EPC) companies, construction contractors, engineering firms, and other parties that participate in large scale energy infrastructure development works. Generally such businesses will be characterized as energy generators/suppliers (for example
using natural gas fueled power sources, photo-voltaic “farms”, bio-gas/mass fueled plants, or even hydro-electric energy sources), large EPC companies, large contractor and/or engineering firms and companies that specialize in assembling energy financial packages within the Power Purchase Agreement (PPA) business realm.

2.2 The City will consider responses to this RFI in connection with the evaluation of delivery options and the further development of a RFQ/P for the Project. This RFI includes questions regarding each respondent’s current capabilities, demographics and past experiences and how those experiences may inform working with the City as it relates to operating models, leading practices, and process improvements.

2.3 Presently the electrical infrastructure at IAH is characterized by:

- Complexity: Each terminal is served by multiple service points and meters.
- Reliability: Multiple, aged terminal feeders operating at 50% load or higher, with manual throw over (MTO) switches installed at some terminals in lieu of automatic throw over (ATO) switches.
- Ownership: Current distribution system prevents effective load aggregation by City/HAS for alternative power delivery strategies.

2.4 As stated above, the new and reconfigured facilities to be delivered by the ITRP will require an increase in power and thermal energy infrastructure. Having a consolidated connection point for electrical services is anticipated to facilitate a spectrum of possible business benefits meeting the following Project goals:

1. Cost effective power solution – The right type of investment structure in new energy infrastructure for IAH, for current and future demands, to deliver cost savings.

2. Reliability – Presently, much of the IAH electrical infrastructure that is within the airport is aged. The Project would over time, provide a path to replacing much of this infrastructure and place it under City ownership and control, increasing overall systems reliability, and economic benefit.

3. Energy resilience – An integrated energy infrastructure offers benefits of optimizing energy sources from a pricing perspective, and facilitates an agile, redundant and resilient system for power delivery.

4. Sustainability – “Sustainability means creating places that are environmentally responsible, healthful, just, equitable, and profitable.” (U.S. Green Building Council). As it relates to this project, "sustainability" means the energy infrastructure improvements will be designed, constructed and operated in such a manner that positions the City to reduce the cost of resources and benefit from electric energy that is generated through renewable, environmentally cleaner and/or lower cost techniques.

3.0 ABOUT THE PROJECT

3.1 The genesis of the Project arose within the UMP published in September 2014. The UMP outlines many utility and infrastructure changes which are expected to be constructed in support of the ITRP. A central recommendation of the UMP includes construction of a new underground utility corridor or ‘Utilidor’, which will be used to deliver power, heat, and cooling services to all terminals. These services, especially the electrical power supply, are currently fragmented, and are supplied from multiple feeders and electrical substations. The existing CUP, which currently provides essentially all heating and cooling to the terminals, is intended to remain the central
source for these services after the ITRP is complete; however, the ultimate energy infrastructure solution may also consider modifications to the existing CUP, a second CUP collocated with a Combined Heat and Power (CHP) plant remote from the existing, or other options that would meet the project goals. To address the utility corridor recommendation, HAS initiated consideration of the EUL project in 2015 which culminated in the advertisement of an RFQ in January 2017. However, the EUL project did not completely address HAS and the City’s energy needs giving way to the consideration of the Project in late 2016.

3.2 The overarching objective of the Project is to enable the HAS, its advisors, and the City to identify, procure, and implement a long-term energy infrastructure strategy and solution, particularly for IAH, but also to possibly supply some of the City’s energy needs. This Project is intended to result in:

- an appropriate balance of lower energy costs,
- improved energy supply reliability,
- efficient use of capital,
- and contribute to regional reduction of air emissions.

3.3 To that end, HAS elected to reach out to local available experts, such as the Houston Advanced Research Center (HARC) and the Texas A&M University Experiment Station, to further vet the opportunities for a new energy solution for IAH and the City. HAS’ vision for the Project was presented to the public during an industry outreach event (ITRP Industry Day) held on December 6, 2016. The presentation, titled “Project Overview – Energy Infrastructure”, may be found on the Fly2Houston website at http://www.houstonairports.biz/0/3921886/0/94600D95659/. Respondents are encouraged to access this presentation which offers additional graphic information about the Project.

3.4 As presented at the ITRP Industry Day, two energy solutions (presentation Options 1 and 2) were identified as viable for the energy supply and infrastructure for IAH and the City:

1. Aggregating the delivery of power to the IAH facilities through the proposed EPS and receiving electrical power from a power supplier at 138 kV, with distribution to the IAH facilities via an HAS-owned electrical distribution system provided by HAS. This option would most likely be provided through a negotiated bulk PPA. This differs from the current case where power is supplied directly to the CTA facilities via a 12.47 kV distribution system. HAS will be providing a 138 kV interconnection to the wider grid via a separate Enabling Utilities – Landside project.

2. Aggregating the delivery of power to the IAH facilities through the proposed EPS and self-generating power via construction of an on-site power source, such as a CHP plant (cogeneration plant), with distribution to the IAH facilities via an HAS-owned electrical distribution system delivered by HAS. This cogeneration solution provides the benefit of using “waste heat” which can be readily used for hot and chilled water production. This option could be procured through various alternative delivery methods described in Section 4.0 PROJECT DELIVERY METHOD CONSIDERATIONS.

3.5 Given the two options are not equivalent, each option will be evaluated independently and compared against the Project goals stated in Section 2.0 PURPOSE.
3.6 IAH is currently in the midst of the multi-year ITRP to modernize and expand the terminal facilities. Central to this is the demolition of the existing Terminal D, which will be replaced with the new MLIT. As previously stated, the new and reconfigured facilities to be delivered by the ITRP will require a substantial increase in power and thermal energy infrastructure. Having a consolidated connection point for electrical services is anticipated to facilitate a spectrum of possible business benefits meeting the Project goals.

3.7 Presently the electrical infrastructure at IAH is characterized by:

- Disaggregated, fragmented power distribution and many individual CenterPoint Energy (CPE) revenue meters;
- Underground electrical circuits that are aged, and are at risk of failure;
- Service from two off-site CPE substations, providing 12.47 kV distribution throughout IAH;
- Ownership and management of the CTA electrical distribution system by a Utility Service Provider;
- Production and distribution of centralized chilled water service for air conditioning services in the CTA.

3.8 The airport currently facilities receive electrical power from CPE at 12.47 kV through twelve (12) separate power delivery points from two different CPE substations: Intercontinental and Greens Road. Each transformer for the terminals (generally) has two sources of power, which serves to increase reliability. However, the costs of power are greater because of the multiple delivery points, and the reliability of each circuit is less than ideal because none is dedicated to only supply IAH. Potential savings from a centralized energy infrastructure solution, such as CHP are also limited because IAH’s total electrical power use is segregated, rather than aggregated. Aggregation, which will be facilitated through the completion of this project by providing for City ownership of the CTA electrical distribution system, will also allow CHP to be more fully utilized, resulting in greater savings from avoided grid power purchases. Also, load aggregation would provide HAS with additional contractual options for less expensive grid power, regardless of whether a CHP system is implemented.

3.9 Existing IAH electrical energy is currently purchased as part of a City-wide purchase on a competitive low bid retail basis. The current electrical provider is Reliant Energy from facilities owned by CPE, as was conventionally done going back to the original airport construction, then modified by the more recent change towards energy deregulation. Energy is supplied from two CPE substations (Intercontinental and Greens; refer to Exhibit 1) just off the IAH property, via a network of 12.47 kV underground circuits, to transformers at the Airport terminals. At each transformer location, the energy is metered by CPE and each service billed individually. (Refer to Exhibits 2 and 3.) Energy is also purchased from CPE to power the CUP, which provides chilled and hot water for the entire CTA. The CUP is expected to require expansion to accommodate loads associated with the build out recommended in the UMP.

3.10 Many of the CPE underground circuits are at or beyond the end of their service life, and thus at risk of failure. Since these circuits are owned and controlled by CPE, HAS and its tenants are dependent on CPE for maintenance and timely response to equipment problems. The UMP also identified major recommended replacements of thermal equipment. The cost for such replacements and upgrades could be offset within an optimized Project.
4.0 PROJECT DELIVERY METHOD CONSIDERATIONS

4.1 The Project may be delivered by one or more of the following delivery and financing options, depending on the feasibility of the technical solution selected:

1. Design-Bid-Build (DBB)
2. Construction Manager at Risk (CMAR)
3. Design-Build (DB)
4. Design-Build-Operate-Maintain (DBOM)
5. Design-Build-Operate-Maintain-Finance (DBOMF)

5.0 RFI SCHEDULE

<table>
<thead>
<tr>
<th>Event</th>
<th>Date and Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFI Release Date</td>
<td>February 3, 2017</td>
</tr>
<tr>
<td>Pre-Submittal Conference</td>
<td>February 14, 2017 at 10:00 AM CST</td>
</tr>
<tr>
<td>Deadline to Submit Questions</td>
<td>February 17, 2017 at 12:00 PM CST</td>
</tr>
<tr>
<td>RFI Response Due Date</td>
<td>March 21, 2017 at 2:00 PM CST</td>
</tr>
</tbody>
</table>

* The City may release an RFQ/P after reviewing the responses to this RFI.

6.0 RFI RESPONSE SUBMITTAL

6.1 SUBMISSION FORMAT

The City’s review committee will review the submissions based on the following criteria. Please be advised that the information received may be utilized in a forthcoming RFQ/P.

A. Business Viability and Capability (Maximum 2 Pages)

1. Corporate name.
2. DBA name if different from 1.
3. State of incorporation in the United States (or elsewhere).
4. Location of corporate headquarters.
5. Is the company legally qualified to do business with the City, and within the State of Texas, and conduct all aspects of the subject project as required by Texas State and Federal law (e.g., the company or sub-consultant that may perform engineering services must be registered with the Texas State Board of Registration for Professional Engineers)?
6. Geographic coverage of business activities.
7. List at least three (3) recent clients/customers for whom your company has provided major energy delivery projects comparable to the Project.
8. Is your firm an MWBE firm? If so, has your firm done business with City before? If not, has your firm used MWBE firms to perform services on other projects with the City or State of Texas, or elsewhere? Please provide details.
9. Does your company have the technical capacity to undertake such a project of the size / capacity of the identified Project?
10. Does your company have the financial capacity to undertake such a project of the size / capacity of the identified Project?
B. Services (Maximum 5 Pages)
1. Describe company’s scope of regular business services.
2. Describe whether and how the Project fits into your regular scope of business services.
3. Describe why the Project is of interest to your company.
4. Would your company propose to deliver the Project as a prime, as a form of joint venture or as a member of a consortium?
   a. If not the prime, in what role would you foresee your company participating?
   b. Why and how are you qualified to perform in the anticipated Project capacity?

C. Energy Initiatives Project Approach (Maximum 15 Pages)
1. What are the major issues and challenges that your company perceives with the Project? (Please address any and all risks that your company foresees; e.g., emissions permitting, ERCOT permitting, long-lead times for equipment based on world market conditions, etc.)
2. Of the several project delivery models listed within this RFI, which approach would be preferable? You are also free to suggest alternative delivery approaches.
3. Which delivery approach(s) would your company be able to offer to deliver the Project?
4. Given that the City’s objective is to secure reliable electrical energy at a guaranteed base rate for a long-term, fixed contractual period, what technical approach(s) would you recommend to meet the stated objective?
5. Identify how your company’s approach(s) and delivery method(s) would meet the stated objective.
6. What projects has your company participated in that are similar to the Project? Describe your role on your listed projects?
7. Does your company provide operation and maintenance (O&M) services for facilities of the type defined by this Project? If so, provide a summary of your approach for this Project.
8. Does your company provide financing for the type of facilities defined by this Project? If so, provide a summary of your approach for Project financing.

D. Additional Information (Maximum: 20 Pages)
1. Please provide any other information or details you believe pertinent to the successful delivery of the Project.
2. Individual project profiles should be limited to one page in length for each project.

7.0 RFI RESPONSE - SUBMITTAL INSTRUCTIONS
7.1 Please indicate your interest to this RFI requirement by adhering to the following submittal procedure. Provide six (6) printed copies of the Response to this Request For Information, including one (1) printed original (marked original) signed in BLUE ink, as well as six (6) complete copies on memory stick (USB drive), labeled with the appropriate RFI name and number that includes a complete copy of all information in the printed original, submitted in a sealed envelope to:

Houston Airport System
Supply Chain Management Office
Attn: Andre’ K. Morrow, Sr. Procurement Specialist
18600 Lee Road
Humble, Texas 77338
7.2 The City desires to minimize the submission of unnecessary RFI material. Please include the RFI identification number H37-EIPIAH-2017-018 on any submissions.

7.3 The envelope or package should clearly identify the name and address of the Respondent and indicate the contents to be: “Response to RFI H37-EIPIAH-2017-018: RFI – Energy Initiatives Project”.

7.4 The deadline for submissions in response to this request for information is March, 21 2017 at 2:00 PM Central Standard Time.

8.0 QUESTIONS ON THE RFI

8.1 Questions and comments regarding this RFI must be emailed to Andre.Morrow@houstontx.gov.

8.2 The deadline for requests for additional information and questions is February 17, 2017 @ 12:00 P.M. (Noon), CST. Please include the phrase “H37-EIPIAH-2017-018: RFI – Energy Initiatives Project” in the subject line and provide all applicable contact information. HAS shall provide written responses to all questions received in writing before the additional information and questions deadline. Questions received from all Respondent(s) shall be answered and posted on HAS website http://www.fly2houston.com/ in the form of a Letter of Clarification (LOC). It is the Respondent(s) responsibility to ensure that they secure all correspondence.

9.0 GENERAL TERMS

9.1 Interested vendors are encouraged to submit information requested in this RFI. The City may use this information as source material for a RFQ/P.

9.2 All information provided and expenses incurred must be at “NO COST” to the City. All responses will be subject to the Texas Public Information Act (TPIA). Any proprietary materials and/or trade secrets that must be submitted should be clearly and individually marked.

9.3 The City will not be liable for any costs of work performed in the preparation and production of any RFI response. By submitting a response to the RFI, respondent agrees not to make any claims for, or have any right to, damages because of any misunderstanding or misrepresentation of the information, or because of any misinformation or lack of information in the RFI. The responses to the RFI shall become the property of the City of Houston. The City has the right to adopt, modify, or reject any or all ideas presented in any material submitted in response to the RFI. Information provided may be used in a future RFQ/P.

9.4 Since this RFI is designed as a tool to collect information and will not result in a procurement contract for the Project, it does not fall under the requirements of Chapter 252 of the Texas Local Government Code.

9.5 TPIA and Responses

1. The purpose of the TPIA requirements is to promote the public’s right to know the process of governmental decision-making and to grant maximum public access to governmental records.
2. Thus, a member of the public may submit a TPIA request for disclosure of the contents of the responses submitted to the City in response to this RFI. The responses of respondents are subject to disclosure under the TPIA. However, pursuant to Section 552.110, a governmental agency may except from disclosure information that qualifies as a trade secret or commercial and “financial information privileged or confidential by statute or judicial decision.” Mark clearly in your RFI response, any information you claim as proprietary, copyrighted or rights reserved which may be protected from disclosure under the TPIA.

3. If there is information in your response, which you claim meets the requirements set forth by Section 552.110 of the TPIA; you must inform the City in a letter or by email, accompanying your response.

9.6 The City reserves the right to:

1. Postpone or cancel this RFI upon notification to all RFI respondents.

2. Amend the specifications after release with appropriate notice to all RFI respondents.

3. Request RFI respondents to present supplemental information clarifying their responses, either in writing or in a formal presentation.

10.0 ADMINISTRATIVE INFORMATION

10.1 All recommendations and comments are welcomed and will be reviewed and considered. All recommendation(s) of good merit and clear business logic and methodology may be used and incorporated into the final RFQ/P solicitation document.
Exhibit 2

West Central Terminal Area

Exhibit 3

East Central Terminal Area