STAFF REPORT

TO: AC Transit Board of Directors
FROM: Michael A. Hursh, General Manager
SUBJECT: Contract Award for PC40 Hydrogen Fuel Cell Power Plant
Advanced Diagnostic Software And Technical Support

ACTION ITEM

RECOMMENDED ACTION(S):

Consider approving the award of a contract to Ballard Power Systems Inc. for PC40 hydrogen fuel cell power plant advanced diagnostic software and technical support.

BACKGROUND/RATIONALE:

United Technologies Company (UTC) Power engineered, designed and manufactured the PC40 Puremotion fuel cells, however; UTC no longer supports this technology. The existing performance monitoring and diagnostic software is outdated and does not allow for monitoring and detection of conditions experienced during advanced stages of operation. The District currently operates thirteen PC40 Puremotion fuel cells on its fleet of VanHool hydrogen fuel cell buses. The PC40 fuel cells have been in operation for over six years which require advanced methods, tools and procedures to monitor performance, diagnose and maintain the fuel cell power plants. Most of the fuel cells will reach or surpass 18,000 hours of operation in 2017. AC Transit needs to partner with a firm that has appropriate Intellectual Property (IP) rights for the UTC PC40 Puremotion fuel cell power plant to develop and deliver advanced diagnostic software with source code specific to the operating characteristics of the PC40 fuel cell and capable of allowing for advanced diagnostic, performance monitoring, and enhancement options.

Since this is a very specialized and unique technology, District subject matter experts could not find another procurement to compare it with that delivered a similar scope of work. In developing the independent cost estimate, District subject matter experts relied on their experience, knowledge of the PC40 fuel cell power plant, and best professional assessment of the scope of work to established the independent cost estimate at $79,325.

This procurement was conducted as a competitive public bid process through a Request For Proposals (RFP) process. Three firms, Ballard, Hydrogenics, and US Hybrid were directly notified of the project, 218 Disadvantaged Business Enterprise (DBE) firms were also notified of the solicitation and it was publicly posted on the AC Transit website to 325 registered vendors. Only two firms submitted a proposal by the submittal due date of June 8, 2017.

The District received two proposals, but only the Ballard proposal was deemed to be responsive and responsible. The other proposer did not have the appropriate intellectual property rights licensing which is key to being able to perform the scope of work; therefore, it was deemed
non-responsive. A team of four internal stakeholders evaluated the proposal based on the specifications of the RFP using evaluation criteria weighted 50% on the proposing firm’s qualifications, 15% on the work plan and work understanding, 30% on the staffing and project organization, and 5% on proposed price, for a total possible point total of 100%.

The table below shows results of the evaluations:

<table>
<thead>
<tr>
<th>Proposer</th>
<th>Qualifications</th>
<th>Work Plan</th>
<th>Staffing</th>
<th>Proposed Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballard</td>
<td>47.5</td>
<td>14.25</td>
<td>25.5</td>
<td>$118,500</td>
</tr>
<tr>
<td>Independent Cost Estimate</td>
<td></td>
<td></td>
<td></td>
<td>$79,325</td>
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</tbody>
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While its bid was higher than the independent cost estimate, Ballard provided a proposal that met the scope of services in the RFP and it is advantageous for the District in its need to obtain advanced diagnostic software with source code specific to the operating characteristics the PC40 fuel cell. Ballard’s extensive familiarity with fuel cell power plants, access to the UTC Power Intellectual Property, data and advanced technical knowledge positioned Ballard to develop the advanced diagnostic methods and tools on an as needed basis when supporting troubleshooting efforts. Many of these types of tools are pre-existing within Ballard’s service department. Ballard will also provide training to District mechanics on advanced troubleshooting methods and use of the diagnostic tools.

Based on all of the factors in the evaluation process Ballard’s overall price proposal has been considered fair and reasonable. The contract award is recommended to Ballard in the amount of $118,500 which includes cost for project management and communication, software and hardware assessment and development, demonstration and training, and as needed technical support services.

**BUDGETARY/FISCAL IMPACT:**

Funding for this contract is available through an existing awarded Federal Transit Administration National Fuel Cell Bus Program grant. No local match funds are required.

**ADVANTAGES/DISADVANTAGES:**

Awarding the contract to Ballard will enhance the District’s capability to operate and maintain the PC40 fuel cell power plants for the full useful life of a public transit bus and bring AC Transit’s hydrogen fuel cell bus program into alignment with industry best practices. There are no disadvantages associated with the proposed contract.
ALTERNATIVES ANALYSIS:

The alternative approach would be to repower the fuel cell bus fleet. This would require replacing the UTC PC40 fuel cells with a new fuel cell power plant supported by the original equipment manufacturer. Cost to replace the existing fuel cell power plants with new fuel cells would be considerably higher. An estimated price for a new fuel cell power plant is approximately $250,000.00 per fuel cell plus additional cost to engineer and design a repower option for each bus. Total cost would rise well above $3.5 million dollars to repower 13 buses. Updating the performance and diagnostic software on the existing PC40 fuel cells was deemed the most economical and beneficial to the District.

PRIOR RELEVANT BOARD ACTION/POLICIES

Board Policy 465 Procurement Policy.

ATTACHMENTS:

None

Approved by: Salvador Llamas, Director of Maintenance
Reviewed by: Denise Standridge, General Council
              Claudia Allen, Chief Financial Officer
              Sharon Dennis, Acting Director of Procurement and Materials
              Phillip McCants, Contracts Compliance Administrator
Prepared by: Salvador Llamas, Director of Maintenance