



Suspension of Competition Acquisition Request

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1. Fully describe the product(s) and/or service(s) being requested.

The Department of General Services – Facility Services Division (GSD-Facility Services) would like to request to suspend the competitive bidding process to contract with Bloom Development, Inc. (Bloom) for the installation, operation, and maintenance of solid oxide fuel cell (SOFC) systems.
2. Identify the selected vendor and contact person; include the address, phone number and e-mail address for each.

Vendor: Bloom Development, Inc.
Contact: Selwyn Simmons and Josh Melo
Address: 4353 North 1st Street, 4th Floor, San Jose, California, 95134
Phone: (408) 543-1191
E-mail: Selwyn.Simmons@bloomenergy.com; Josh.Melo@bloomenergy.com
3. What is the total cost of the acquisition? If an agreement, state the total cost of the initial term and the amounts for potential renewal terms.

There is no initial upfront cost associated with the recommended agreements. The County will pay Bloom a specific rate per kW/h for energy produced, offsetting both the cost of installation, operation, and maintenance of the systems and the current and future energy costs with anticipated estimated savings of \$19.8 million over the next 20 years.
4. Identify the unique qualities and/or capabilities of the service(s) and/or product(s) that qualify this as a Suspension of Competition acquisition.

SOFC systems convert fuel into electricity via an electrochemical reaction using an anode, cathode, and electrolyte. As an overview, in a heated environment, ambient air enters the cathode side of the fuel cell as steam mixes with fuel on the anode side to create “reformed fuel”. As the reformed fuel crosses the anode, it attracts oxygen ions from the cathode, which combines with the reformed fuel to produce electricity, steam, and carbon dioxide. In Bloom’s solution, steam from the reaction is then recycled to again mix with fuel to create reformed fuel.

While this process is not unique to how other SOFC systems operate, Bloom has its own proprietary ceramic electrolyte, with a specific unique ink formulation coating it that sets its solution apart from others. This propriety formulation effects how heat is dissipated in the system, which allows Bloom to “stack,” or configure, cells in a way that are more space effective. Bloom’s solution condenses the system size and generates the same amount of energy in a significantly smaller space than other solutions.

Additionally, Bloom’s SOFC systems differ from other sources as they: (1) require less water for normal operation, from recycling steam; (2) offer fuel flexibility, with the ability to use natural gas, biogas, pure hydrogen or hydrogen blends; and (3) are able to provide continuous on-site power, independent of the electrical grid. Bloom’s SOFC systems will offer the County ability to transition toward cleaner, low-emission energy generation, enhancing resilience of the local power infrastructure and reducing energy costs.
5. Identify from Administrative Policy #34 what circumstances constitute a Suspension of Competition.
 - ☐ In an emergency when goods or services are immediately necessary for the preservation of the public health, welfare, or safety, or for the protection of County property.
 - ☐ When the contract is with a federal, state, or local governmental agency.
 - ☐ When the department head, with the concurrence of the Purchasing Agent, finds that the cost of preparing and administering a competitive bidding process in a particular case will equal or exceed the estimated contract amount or \$5,000 whichever is more.
 - ☐ When a contract provides only for payment of per diem and travel expenses and there is to be no payment for services rendered.
 - ☐ When obtaining the services of expert witnesses for litigation or special counsel to assist the County.
 - ☒ When in unusual or extraordinary circumstances, the Board of Supervisors or the Purchasing Agent/Purchasing Manager determines that the best interests of the County would be served by not securing competitive bids or issuing a request for proposal.
6. Explain why the unique qualities and/or capabilities described above are essential to your department.

The main driver for GSD-Facility Services looking for alternative energy sources is to move towards cleaner energy options, helping reduce carbon emissions and better aligning with the State of California’s climate goals. Public Resources Code section 25008 states that it is the policy of the state and intent of the Legislature to promote all feasible means of energy and water conservation and all feasible uses of alternative energy and water supply sources. In general, SOFC systems are an ideal clean alternative energy source because of their combination of efficiency and a positive environmental impact.

Since SOFCs use an electrochemical reaction there is no combustion required, meaning more efficiency in the energy production process from reduced heat waste. This higher efficiency directly relates to “cleanness” as less fuel is required to be converted, further decreasing carbon emissions. As combustion is not required, SOFCs produce almost no nitrogen oxides or sulfur oxides (NOx and SOx, respectively) which, too, contributes to less air pollution.

Not only has Bloom been able to prove reduced CO₂, NO_x, and SO_x emissions, but also boast more water efficiency than other solutions. This pairs positive environmental benefits from reduced emissions, water waste/consumption, and long-term sustainability, with cost savings from increased efficiency.

In addition, Bloom's solution also offers fuel flexibility, allowing for transition between natural gas, biogas, pure hydrogen or hydrogen blends. With the everchanging landscape of natural gas availability, this gives the County the ability to run on natural gas today and transition to biogas or hydrogen if required in the future, ensuring long-term cost control and energy security from the flexibility. Lastly, the SOFC systems Bloom is proposing for the County have a "microgrid add-on" solution built into the design. The microgrid add-on allows this SOFC system to provide uninterrupted electricity, separate from the local utility company's central grid, meaning that SOFC systems can remain operational in the event of a power outage. Because of this, the SOFC systems can continue to provide continuous power for locations they are connected to during local electrical grid failures. Other solutions researched did not have a similar solutions available, setting Bloom's solution apart from the rest.

As mentioned, Bloom has a proprietary ink formulation to coat the ceramic electrolyte in the fuel cell. Not only is this formulation propriety and only available through Bloom, but it also does not require precious metals, corrosive acids, or molten materials, making Bloom's solution a more sustainable option than others from the start. The coating is a key performance enhancer for the SOFC systems, relating to optimized conductivity of oxygen ions, increasing energy conversion efficiency, while also allowing for thermal stability and reliability at high temperatures required for the SOFC operability. As noted above, from the optimization of heat dissipation, Bloom requires a much smaller spatial footprint than other offerings that generate a similar amount of energy. This is ideal for the County trying to maximize energy production in limited space downtown at the County Plaza Building and the Fresno County Sheriff Office Jail.

By utilizing Bloom's SOFC systems, the County plans to reduce reliance on carbon-intensive energy sources, reducing emissions while simultaneously strengthening the availability of reliable power and reducing energy costs.

7. Provide a comprehensive explanation of the research done to verify that the recommended vendor is the only vendor with the unique qualities and/or capabilities stated above. Include a list of all other vendors contacted, what they were asked, and their responses.

While there are other suppliers of SOFC systems, Bloom is the only vendor with access to its proprietary ceramic blend. This blend allows Bloom to reduce heat dissipation, allowing for smaller footprints, maximizing energy generation in available space. As the two proposed locations for Bloom's SOFC systems will be located in downtown Fresno, a more power-dense solution makes it easier for the County to recognize more energy savings from a cleaner solution, optimally utilizing space available for a power-generation plant.

Other vendors researched include: Plug Power, Inc., FuelCell Energy, Inc., Ballard Power Systems, Inc. Ceres Power Holdings PLC, and Doosan Fuel Cell Co., Ltd. While these companies offer fuel-cell solutions, they were determined to not best fit the County's needs for various reasons, outlined below.

- Plug Power, Inc.: Solution has a lower efficiency range and only supports hydrogen as a fuel source.
- FuelCell Energy, Inc.: Does not offer a similar "microgrid" solution and generally has a lower power density, requiring more space for thermal management.
- Ballard Power Systems, Inc.: Relies solely on hydrogen for as a fuel source, limiting long-term fuel flexibility. Additionally, is more mobility based in application, with their stationary SOFC system models still in a pilot/demonstration phase.
- Ceres Power Holdings PLC: Relies on a licensing model, meaning they don't manufacture and deploy their SOFC systems themselves.
- Doosan Fuel Cell Co., Ltd.: Also does not offer a similar microgrid and has lower efficiency range for their solution.

Again, Bloom offers the County the best solution to streamline clean energy and energy savings by providing a turn-key solution with propriety setup that delivers a power-dense SOFC system. This system is unique not only for the propriety formulation that allows for better heat efficiency, but also eliminates combustion and CO₂, SO_x, and NO_x emissions, requires less water from recycling steam generated during the process, offers fuel flexibility for long-term energy security, and a microgrid configuration for continuous on-site power independent of the grid. Bloom's solution is the most advantageous to the County.

With proprietary technology that enhances thermal efficiency, eliminates combustion-related emissions (CO₂, SO_x, and NO_x), reduces water usage from steam recycling, supports multiple fuel types for long-term energy security, and has the ability for a microgrid configuration that provides uninterrupted, on-site power independent of the grid, Bloom offers the County a uniquely advantageous clean energy solution through their turn-key, power-dense SOFC system.

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Requested By:

Staff Analyst

Title

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I approve this request to suspend competition for the service(s) and/or product(s) identified herein.

rhunter 12/3/2025 9:55:30 AM

Department Head Signature

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rblackburn 12/3/2025 11:56:24 AM

Purchasing Manager Signature

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