

AGENDA ITEM SUMMARY

July 7, 2015

City Council

STAFF

Gerry Paul, Director of Purchasing & Risk Management
John Phelan, Energy Services Manager

SUBJECT

Resolution 2015-064 Approving an Exception to the Use of a Competitive Purchasing Process for Design and Construction of a Hybrid DC Power Microgrid Electrical System for the New Utilities Administration Building with Positive Energies LLC.

EXECUTIVE SUMMARY

The purpose of the item is to request an exception to the competitive purchasing process for the contracting of design and construction services for a hybrid DC power electrical system with Positive Energies, LLC (Pos-En), as the alternative is contrary to the City's best interests. The City has awarded the contract for design and construction of the new 37,500 SF Utilities Administration Building (UAB) at 222 LaPorte Avenue to Adolfson and Peterson in accordance with the City competitive purchasing process. The project is pursuing a transformational and innovative electrical systems approach using a Hybrid DC Power Microgrid. The alternative electrical design has been selected for implementation. Pos-En has provided a not-to-exceed price for a complete building electrical system that is lower in cost than the traditional AC (alternating current) power approach. Operation Services, Utilities and Purchasing staff have determined that using the City's competitive purchasing process would substantially increase the project schedule and technical risks for this innovative power system.

Exception to Competitive Bidding Rationale:

City Code Section 8-161(d)(1)(b) authorizes the City's Purchasing Agent to award a contract for construction services without competition, although there exists more than one responsible source, if a competitive process cannot reasonably be used or, if used, will result in a substantially higher cost to the City, will otherwise injure the City's financial interests or will substantially impede the City's administrative functions or the delivery of services to the public.

STAFF RECOMMENDATION

Staff recommends adoption of the Resolution.

BACKGROUND / DISCUSSION

The vision for the Utilities Administration Building (UAB) is one that will demonstrate how facilities can serve as a model in environmental stewardship to the Fort Collins community. Sustainability for the 21st Century is a defining focus of Utilities core services; delivering a level of service our customers expect and in an environmentally and socially responsible way while making the best economic choices for the long-term.

The UAB design is an excellent opportunity for Utilities to "walk the talk" by demonstrating best practices in high performance new construction. The UAB will achieve a LEED Gold certification at a minimum. The design features optimal orientation for daylighting, a high performance envelope and window system, high efficiency water loop heat pumps for heating and cooling with future connections to a shared ground source system and

flexible office space plans to promote collaboration and productivity.

During the course of the design process, the team envisioned a new approach for the electrical systems which increases efficiency, boosts solar output, provides resiliency and demonstrates a new relationship between building loads and the utility grid. The approach utilizes a hybrid DC power microgrid which incorporates DC (direct current) electrical distribution, DC end use devices, solar photovoltaic systems and battery storage. The energy performance and innovation benefits of the alternative approach align with the City's Climate Action Plan (CAP) goals and mission.

The benefits of awarding this project to Pos-En on a non-competitive basis include:

- The field of qualified firms with demonstrated experience designing and implementing commercial scale DC power microgrid system is very limited.
- Pos-En, a Fort Collins based company, has completed the preliminary design for the UAB's hybrid DC power microgrid system.
- Pos-En is the only firm that can complete the project without negatively impacting the project schedule.
- They have provided a firm not-to-exceed price for the alternative approach which is 6% less than a traditional AC system.
- Having a single responsible party for the design, construction and performance testing of a complete building hybrid DC power microgrid electrical solution.
- Enabling an innovative electrical solution within the capital budget of the project using local engineering resources.

This project will positively impact the CAP by:

- Providing a project with important potential demonstration results will serve as a pilot and foundational project for future building projects related to the CAP.
- This will make the building project near net zero and reduce GHG emissions.
- Because many modern building components are native DC devices (e.g. LED lights, IT equipment, high efficiency motors), the system can directly supply DC power without associated inefficiencies of converting from AC to DC power.
- Without needing to convert the solar energy to AC, the solar photovoltaic systems avoid losing 10-20% of the energy output.
- With a modular battery storage system incorporated in the design (charged from either the solar panels or the electric grid), the building has built in back up resiliency and a load shape which can be managed in relation to the grid and building requirements.

The staff team recommends this single source exception in order to maximize these benefits while minimizing risk with the innovative system. In addition, risk is mitigated because the system is designed such that it will still be able to operate from grid power.

Under the proposed approach, Pos-En will be under direct contract with the City for the delivery of the electrical systems of the UAB. The project is expected to start construction in August of 2015 with a one year timeline for completion.

CITY FINANCIAL IMPACTS

The not-to-exceed cost for the Pos-En Hybrid DC Power Microgrid electrical systems (and all other electrical work on the UAB) is \$1.22 million. This is 6% lower than the price estimate for the traditional AC power system. No additional funding or appropriation is being requested as part of this resolution. The capital project funding has already been appropriated through past Council actions.

RESOLUTION 2015-064
OF THE COUNCIL OF THE CITY OF FORT COLLINS
APPROVING AN EXCEPTION TO THE USE OF A COMPETITIVE
PROCESS FOR A CONTRACT WITH POSITIVE ENERGIES, LLC FOR THE DESIGN AND
CONSTRUCTION OF A HYBRID DC POWER MICROGRID ELECTRICAL SYSTEM FOR
THE UTILITIES ADMINISTRATIVE BUILDING

WHEREAS, the City is building a 37,500 square foot Utilities Administration Building at 222 LaPorte Avenue (“Building”) and has awarded the contract for the Building’s design and construction to the general contractor Adolfson and Peterson in accordance with the City competitive purchasing process; and

WHEREAS, a transformational and innovative electrical systems approach using a hybrid direct current power microgrid which, if needed, is also able to operate using alternating current grid power (“DC Microgrid”) has been selected for implementation in the construction of the Building that will deliver services to customers in an environmentally and socially responsible way and result in the best economic choices for the long term; and

WHEREAS, the DC Microgrid incorporates direct current energy performance, direct current end use devices, and solar photovoltaic systems and battery storage, all of which will result in achieving, at a minimum, a LEED Gold certification for the Building; and

WHEREAS, the DC Microgrid will feature optimal orientation for daylighting, a high performance envelope and window system, and high efficiency water loop heat pumps for heating and cooling with future connections for a shared ground source system, among other benefits; and

WHEREAS, the energy and innovation benefits of this alternative approach aligns with the mission and goals of the City’s Climate Action Plan; and

WHEREAS, the preliminary design for the DC Microgrid to be used for the Building has been completed by Positive Energies, LLC (“Pos-En”), a Fort Collins based company; and

WHEREAS, the City’s Purchasing Agent and other City staff have identified a number of reasons that it will be more beneficial to the City if the Purchasing Agent negotiates and awards the contract for the final design, construction and performance testing of the DC Microgrid for the Building (“Contract”) to Pos-En on a non-competitive basis rather than use the City’s competitive bidding process for this contract; and

WHEREAS, these reasons include: (i) that the field of qualified firms with demonstrated experience designing and implementing commercial scale DC Microgrids is very limited, (ii) Pos-En is a Fort Collins based company that has completed the preliminary design for the DC Microgrid, (iii) Pos-En is the only firm that can complete the final design, construct and performance testing of the DC Microgrid without negatively impacting the project schedule for the Building, (iv) Pos-En has agreed in the Contract to a not-to-exceed price of \$1.22 million which is 6% less than estimated price for the traditional AC power system for the Building and

within the City's total capital budget for the Building, and (v) there is a benefit to having a single responsible party for the design, construction and performance testing of a complete DC Microgrid electrical solution for the Building; and

WHEREAS, City Code Section 8-161(d)(1)b. authorizes the Purchasing Agent to award a contract for material, professional services or other services without competition, although there exists more than one responsible source, if a competitive process cannot reasonably be used or, if used, will result in a substantially higher cost to the City, will otherwise injure the City's financial interests or will substantially impede the City's administrative functions or the delivery of services to the public; and

WHEREAS, the Purchasing Agent has determined that the single source exception is in the City's best interest and appropriate for this Contract in order to maximize the benefits to the City while minimizing risks to the City that can exist with an innovative system like a DC Microgrid; and

WHEREAS, as required by City Code Section 8-161(d)(2), the Purchasing Agent has submitted this determination to the City Manager, and the City Manager has approved it; and

WHEREAS, City Code Section 8-161(d)(3) requires prior approval of this purchasing method by the City Council for all procurements which exceed Two Hundred Thousand Dollars (\$200,000.00).

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FORT COLLINS that the City Council hereby adopts as its findings the recitals set forth above and approves the City entering into the Contract with Pos-En for the final design, construction and performance testing of a DC Microgrid for the new Utilities Administration Building and to do so as an exception to the City's competitive procurement requirements for the reasons set forth herein.

Passed and adopted at a regular meeting of the Council of the City of Fort Collins this 7th day of July, A.D. 2015.

Mayor

ATTEST:

City Clerk