REQUEST FOR QUALIFICATIONS

WEST CAMPUS ENERGY PLANT – CONSTRUCT FACILITY

0549700

March 11, 2015

The University of Iowa (University) intends to retain professional design services from an Iowa based firm for the West Campus Energy Plant – Construct Facility program. Interested and qualified firms are invited to submit Statement of Qualifications for this program based on the tentative scope of work and information identified below.

Program Background

University of Iowa Hospital and Clinics (UIHC) patient care services and University research activities require reliable and redundant utility services. Campus growth (e.g.: Children’s Hospital, Pappajohn Biomedical Research Building) and lessons learned from the 2008 flood make addressing long-term basic campus utility services imperative. All steam service for the UIHC complex and all facilities on the west side of the campus rely on the University Power Plant which was built in 1929. The Power Plant is immediately adjacent to the Iowa River making it susceptible to flooding despite the substantial efforts undertaken to protect it, particularly since the 2008 flood. The Power Plant’s location also creates distribution risk, as current steam lines must cross the river to reach UIHC and the west campus. Additionally, the Power Plant’s site is land-locked/built-out and offers limited long-term growth or modernization options.

This program is needed to maintain firm steam generating capacity and to address the increasing demand for steam on the University campus. Firm capacity is defined as having enough steam generating capacity when the largest campus boiler is out of service. Firm steam capacity must be maintained to provide and protect patient care services at UIHC as well as University’s expansive research enterprise. Steam produced by this program is also essential to provide heating for the residence halls and to maintain adequate temperatures in classrooms and office spaces throughout campus.

Currently, the University main campus has a total steam generating capacity of 605 klbs/hr which includes 480 klbs/hr at the Main Power Plant, 40 klbs/hr within the UIHC complex, and 85 klbs/hr at the temporary West Campus Steam Plant. This temporary plant is located immediately adjacent to UIHC and Kinnick Stadium. The temporary West Campus Steam Plant has housed two temporary steam boilers since the 2008 flood. This facility was not built to provide a permanent source of steam. The life-span of these temporary steam boilers has been exceeded and Power Plant staff is working on extending service life an additional 4 years. Due to its proximity to multiple major public and medical buildings (UIHC), the temporary West Campus Steam Plant site is within an area where additional
emissions would impact the ability to comply with air emissions permit limits. If this location was to be made permanent, extensive emission controls and unacceptable operational limitations would be required. These factors preclude replacement or modernization of the steam boilers at this site. As these temporary boilers are critical to the appropriate supply of steam to the UIHC complex, they will remain in service until the new West Campus Energy Plant is complete.

The steam generated by the current Power Plant also powers one-half of the chilled water plant supply (for building cooling and process chilled water) for the campus. Redundancy and long-term growth for steam production will be addressed by this second generation plant.

Finally, developing two geographically dispersed plants will provide a higher level of protection against natural disaster risks.

**Program Description**

This program establishes a new West Campus Energy Plant to supplement utility services provided by the Main Campus Power Plant. The new plant will provide critically important redundancy and future growth options at a location away from the Iowa River flood plain and in proximity to the UIHC complex and a majority of University research-related facilities. The program will establish a new Combined Heat and Power (CHP) facility on the west side of the University main campus and will be connected to the existing campus utility distribution system.

The new CHP facility will be located adjacent to the new UIHC back-up power facility being constructed on the north side of the Finkbine Commuter Lot (lot 65). It is anticipated the CPH facility will initially be capable of delivering 150 klbs/hr steam to the campus and could be expanded up to 300 klbs/hr without altering the building’s footprint. The CHP facility will have black start capabilities and could also be expanded to provide back-up electrical generation of approximately 8 MW, in the event of a power failure from MidAmerican Energy. The added electrical generation would also provide peaking power during MidAmerican summer curtailment periods; positioning the University to negotiate more favorable power rates and incentives. While the facility will be fueled by natural gas, the proposed building site allows options for future biofuel sources via the adjacent rail line.

The existing west campus utilities distribution systems will be upgraded and extended to the CHP facility as part of the program. Direct buried, redundant steam and condensate lines will be installed to serve the steam produced at the CHP facility. Existing steam lines and vaults will be replaced and resized to address current and future loads. The new distribution system will also include extending water distribution piping. The CHP facility will be connected to the nearby electrical Substation U (one of two serving power to the University campus) through new electrical duct banks. Natural gas and sanitary sewer lines will connect the CHP facility to existing regional distribution lines located at Melrose Avenue.
Program Scope

The University is seeking an Iowa based professional design firm who will be responsible for overall program management, mechanical engineering and electrical engineering services. The University will work with the design professional to select the various sub-consultants, including but not limited to, architectural services as well as structural and civil engineering services required for the program and whose work will be the responsibility of the design professional.

In addition to the design professional agreement, the University will contract directly with third party firms for commissioning services, topographical surveys, geotechnical surveys, acoustical noise modeling, air quality permitting and quality control testing.

University program 0549700 West Campus Energy Plant – Construct Facility will be delivered by the following construction projects:

1. 0549701 West Campus Energy Plant – Construct Facility

   This project will construct the CHP facility which will be located adjacent to the new UIHC back-up power facility being constructed on the north side of the Finkbine Commuter Lot (lot 65). This design shall furnish at minimum, a LEED silver certified facility capable of housing the following requirements without expansion:

   A. Design of a building capable of housing equipment capable of, upon full build out, of delivering 300 klb/hr of superheated steam at 150 psig to campus utilizing two packaged gas boilers through a common header to back pressure steam turbine generator(s) as well as steam conditioning equipment.

   B. Design of a building capable of housing equipment capable of, upon full buildout, providing an additional 8 MW of backup electrical generation through natural gas reciprocating engines.

   C. Provide N+1 redundancy in plant auxiliary equipment.

   D. Provide black start capability.

   E. Partition equipment and controls both mechanically and electrically such that removing a single device from service does not prevent operation of the plant.

   F. Minimize increasing ambient noise.

   G. The first phase of plant equipment will include 150 klbs/hr steam to the campus and black start capabilities, in addition to distribution capable of delivering 300 klbs/hr steam to campus within the current $75,000,000 project budget.

   H. The first phase of plant equipment will include a steam driven backpressure turbine generator as the budget allows.
Refer to the conceptual plant layout drawing.

2. **0549702 West Campus Energy Plant – Connect to Utility Distribution**

The existing west campus utilities distribution systems will be upgraded and extended to the CHP facility as part of the program. Direct buried, redundant steam and condensate lines will be installed to serve the steam produced at the CHP facility. Existing steam lines and vaults will be replaced and resized to address current and future loads. The new distribution system will also include extending water distribution piping. The CHP facility will be connected to the nearby electrical Substation U (one of two serving power to the University campus) through new electrical duct banks. Natural gas and sanitary sewer lines will connect the CHP facility to existing regional distribution lines located at Melrose Avenue.

Refer to the preliminary utility routing plan.

The Design Professional will follow the processes outlined in and furnish design documents in compliance with the University of Iowa Design Standards and Procedures dated January 1, 2015.

**Anticipated Program Schedule**

**Program milestones**
1. IBOR approves permission to proceed with planning: 03/11/15.
2. IBOR approves schematic design: 09/09/15.
3. IBOR approves program description and budget: 02/04/16.

**Design Professional (DP) Search**
1. University issues Request for Qualifications: 03/12/15.
2. Candidate firms submit Statement of Qualifications: 03/26/15.
5. University selects Iowa based professional design firm: 04/10/15.
6. Program kick-off meeting: Week of 05/04/15.

**0549701 West Campus Energy Plant – Construct Facility**
1. DP issues Schematic Design Documents: Week of 06/15/15.
5. DP issues 75% Construction Documents: Week of 12/14/15.
6. University hosts 75% Construction Documents review: Week of 01/11/16.
7. DP issues final Construction Documents: Week of 02/22/16.
8. University hosts final Construction Documents review: Week of 03/21/16.
9. DP issues bid documents: Week of 04/18/16.
10. University opens bids: Week of 05/16/16.
11. University awards contract: Week of 05/30/16.
13. Commissioning and startup complete: Week of 08/20/18.

0549702 West Campus Energy Plant – Connect to Utility Distribution
3. DP issues 75% Construction Documents: Week of 02/08/15.
4. University hosts 75% Construction Documents review: Week of 03/07/16.
5. DP issues final Construction Documents: Week of 05/02/16.
6. University hosts final Construction Documents review: Week of 05/30/16.
7. DP issues bid documents: Week of 06/27/16.
10. Construction substantially complete: Week of 04/16/18.
11. Project complete: Week of 05/28/18.

Selection Process

The University will recommend an Iowa based professional design firm to the Board of Regents, State of Iowa.

Based on the University’s evaluation of all Statement of Qualification submitted, a select number will be invited to interview. The final selection and recommendation for the program Engineer of Record to the Board of Regents will be based on the interviews and qualifications. All firms submitting a State of Qualification shall be notified of the firms selected for interviews and the recommendation to the Board for selected design firm.

The selected firm will be put under contract using the standard University of Iowa Professional Services Agreement (www.facilities.uiowa.edu/pdc/consultants/agreement-form.html).

Statement of Qualifications

Firms interested in providing services for this program shall include (as a minimum) the following in their Statement of Qualification:

1. Title page identifying the Statement of Qualifications for the University of Iowa, West Campus Energy Plant – Construct Facility, University program 0549700.
2. Cover letter expressing interest in providing services for the program as well as principal contact information including contact person, email address, phone number, company name, street address, city, state, zip code.
3. Proposed program team, individual roles, qualifications, program experience and office location for each team member.
4. Team members’ resumes showing qualifications related to this program.
5. Program team’s experience on similar design projects managed or designed by the individuals on the program team. For each project submitted, include the following: team member’s specific role, project summary, project cost, construction cost and client reference including contact information.

6. Program team’s experience with designing combined heat and power facilities including equipment such as gas fired steam generators, steam turbine generators and reciprocating engine generators identifying projects managed and/or designed by the individuals on the proposed team. List each team member’s specific role, project summary, client reference and contact information.

7. List of University of Iowa projects (completed or underway), the names of the firm’s proposed program team members responsible for those projects, related client references and a summary of project and construction costs related to those projects.

8. Familiarity with the University of Iowa project delivery process and design standards.

9. Program approach and schedule.

10. Description of the firm’s quality control procedures. This should address quality in documentation as well as in the design process.

Firms interested in providing services for the program shall submit the requested materials one (1) single PDF file by no later than 12:00 p.m. (CDT) on Thursday, March 26, 2015

to:

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Electronic file may be submitted via email and shall be label as follows:

0549700_150326 Statement of Qualifications – <firm name>.pdf

Statement of Qualifications shall be a maximum of twenty pages excluding the title page, cover letter, and resumes. Failure to complying with the criteria set forth, may be result in rejection of submittal and consideration of the submitting Firm. Firms from which additional information/clarification is requested will be contacted.

All questions shall be directed to the Design Project Manager noted above.

All costs associated with the development and submittal of the Statement of Qualifications and interview presentation will be the responsibility of the design professional.