

November 21-22, 2019

ITEM 185-1006-R1119

Request for Authorization to Engage with an Energy Service Company to Assess Feasibility of a Combined Heat and Power System, University of Montana

THAT

The Board of Regents authorizes the University of Montana, in collaboration with the Montana Department of Environmental Quality, to enter into the initial stage of engaging an energy service company (ESCO) to assess the feasibility of constructing a state-of-the-art combined heat and power system to augment the current campus steam plant.

EXPLANATION

The University of Montana-Missoula is interested in entering into an Energy Performance Contract (EPC) to develop an energy master plan and implement modifications to convert the current Heating Plant into a combined heat and power facility. Performance contracting is a contractual and financing method by which facility owners can undertake comprehensive energy efficiency retrofits and infrastructure improvements with minimal risk and financial exposure.

Minimum savings, which pay for the implementation of the project, are guaranteed by Energy Services Companies (ESCOs) over the contract period. Performance contracting allows operating budget funds that would be spent on energy bills to be invested into facility improvements. The University of Montana will benefit from energy and cost reductions, lower long-term operating costs and contribute to UM's sustainable energy future.

An ESCO, or Energy Service Company, is a business that develops, installs, and arranges financing for projects designed to improve the energy efficiency and maintenance costs for facilities over an established time period. ESCOs generally act as project developers for a wide range of tasks and assume the technical and performance risk associated with the project. Another distinguishing feature of an EPC is that ESCOs provide a turnkey service. The ESCO will be the party responsible for designing, implementing, and measuring the results of an EPC project. The ESCO can make a wide variety of recommendations of possible retrofit measures specific to each client's needs.

The University of Montana has followed statutory and Department of Environmental Quality processes and selected McKinstry Essention, Inc., as the Energy Services Contractor to perform the energy audits on selected University of Montana facilities.

If the University of Montana and the Board of Regents decide to pursue the project, UM will present the final scope of work and services to the Board of Regents for approval at a future meeting.

Technical Energy Audit

In 2016, UM Facilities Services worked with Montana DEQ and CTA Architects and Engineers to complete a combined heat and power feasibility study. This preliminary study showed a potential utility savings up to \$1.5M per year and a possible one third reduction in carbon emissions. While a firm estimate of project cost is not yet available, the feasibility study estimated the project to be in the \$15M range.

During this phase, the ESCO will review the feasibility study, utility data, existing infrastructure and potential combined heat and power solutions to take a deeper look at the potential financial and sustainability impacts this project could have on our campus. The updated plant would continue to provide the steam needed by the campus but would also produce the majority of the electricity required to meet campus loads. The analysis of this optimized system is then taken to an investment grade quality which involves detailed energy modeling to confirm potential savings and complete schematic design to arrive at a guaranteed maximum price of construction and savings. The Investment Grade Audit will be the basis for the final selection of the system to be implemented through the EPC. A monitoring and verification plan to measure the success of the implemented project is developed and included in the EPC.

In parallel, The ESCO will be working with Facilities Services and reviewing building level utility consumption to construct a Campus Energy Master Plan. This plan would identify and prioritize energy saving projects across campus. The goal of this plan would be to reduce campus energy consumption by 20%. The Campus Energy Master plan would act as a roadmap of projects to help the University reach our energy saving and sustainability goals. This roadmap would also play an important role in the design of a potential combined heat and power facility. The new facility would be designed with the flexibility to efficiently provide our current and future energy needs.

If UM and the BOR decide to pursue the project further, UM will present the final scope of work and services, as well as the preferred option for project financing, for approval at the January 2020 BOR meeting.

ATTACHMENTS

None.