September 16-17, 2020

ITEM 190-1013-R0920

Request for Authorization to Construct Combined Heat and Power Plant – University of Montana, Missoula

THAT

Consistent with MCA 90-4-1101 and in accordance with Board of Regents Policy 1003.7, the Board of Regents of the Montana University System authorizes the University of Montana – Missoula to expend up to $20,000,000 for the construction of a combined heat and power plant on the University of Montana – Missoula Campus.

EXPLANATION

The University of Montana-Missoula is nearing the completion of the investment grade audit with McKinstry, our Energy Services Contractor, on the feasibility of upgrading the existing Heating Plant to a combined heat and power plant. The upgraded plant would maintain/improve the steam production and allow the University to generate the electrical power for its on-campus users.

The current Heating Plant includes three (3) natural gas boilers that were installed in the 1960's. In the 1990's, a 440-Kilowatt steam turbine was installed to produce electric power for campus use and reduce steam pressure to 30 psi before supplying the campus with steam heating. The boilers and auxiliary systems have been well maintained but portions need to be either replaced or updated to ensure proper reliability can be maintained in the future.

The new configuration of the facility would include two natural gas fired turbines coupled with a heat recovery steam generator (HRSG) and a condensing steam turbine. The gas turbines are the main driver for the combined heat and power plant. The gas turbines rotate generators that produce electrical power for campus. Hot exhaust from the gas turbine provides heat to the HRSG to produce the steam that is sent to the condensing steam turbine where additional power is generated and lower pressure is introduced into the campus steam distribution system.

Over the past few months, McKinstry has continued their analysis to refine scope, cost and potential savings. This analysis has provided a project cost that would not exceed $20.0M with an estimated annual $1.4M-$1.7M in utility savings. McKinstry will continue their analysis and provide the university a Guaranteed Savings for the project.

The proposed upgraded plant would also be a huge step toward meeting campus' sustainability and climate action goals by reducing the campus' carbon footprint.

This item authorizes the University of Montana to execute an energy performance contract with McKinstry Essention, Inc. for up to $20 million to install this project and further authorizes the University to negotiate the financial agreements.

ATTACHMENTS

Attachment #1: Board of Regents Policy: Physical Plant B Section 1003.7