

November 16-17, 2017

ITEM 177-1601-R1117

UM Western Summer Boiler Project

THAT

Consistent with provisions of MCA 90-4-1114(1) and BOR Policy 1003.7, The Board of Regents authorizes University of Montana Western to proceed with an Energy Performance Contract to install a small boiler to provide hot water in the summer months and to redirect existing staff hours to provide preventative maintenance from May through October. The authorization is for up to \$503,000.

EXPLANATION

On 9/24/2015 UM Western selected McKinstry from the prequalified list of Energy Performance Contractors published by the State of Montana Department of Environmental Quality as provided for in Montana Code Annotated (MCA) 90-4-1105. The campus wide energy audit was completed on 10/14/2015. Numerous energy and deferred maintenance projects were identified, however funding for these projects was not available at that time.

UM Western began identifying funds for one specific project identified in the energy audit, the installation of a summer boiler, in 2016. The appropriate University funds have now been identified for this single Energy Conservation Measure from the audit, and UM Western requests authority to implement this project using the existing Energy Performance Contract with McKinstry in accordance with State protocols for EPC delivery methods. The design is more than 50% complete and was reviewed by State Architecture and Engineering.

The campus is heated using the existing biomass boiler and an existing 500 bhp gas fired boiler. These boilers are sized for the entire campus load in winter peak heating demand and are not efficient for summer operation. During this time, a small amount of steam is used to heat domestic hot water for the campus during the day. This large boiler is vastly oversized for this task which causes it to start and stop often, resulting in inefficient and potentially damaging operation. This boiler is also required to be continually manned by a licensed boiler operator during operation. In an attempt to complete general mechanical maintenance around campus, the boiler is shut down during the nights freeing up staff for preventative maintenance. However, this also causes the boiler and steam distribution lines to cool and contract, increasing the potential for leaks and damage.

Under this project, a 150 bhp boiler operated at 15 psi would be used during the late spring, summer, and early fall to produce enough steam for domestic hot water and extend the maintenance season. This would allow the heating plant to supply hot water to campus around the clock, which has not been the case for the last four years. This boiler would not require constant monitoring to operate, allowing the maintenance staff to perform much needed maintenance and provide domestic hot water to Residence Halls operating a capacity. The smaller, more appropriately sized boiler, will also run much more efficiently than the current boiler. This will save the University utility and maintenance costs into the future.

ATTACHMENTS

Attachment #1 | BOR Policy Physical Plant Section 1003.7