

UAF Combined Heat and Power Plant Replacement Information Item

Project Update

The consulting team of Stanley Consultants and SLR, Inc. has been advancing work towards the major deliverables of a cost estimate and air permit application. The preliminary design was submitted at the end of July 2012 and the air permit application was submitted in mid-January 2013.

The preliminary cost estimate exceeded an earlier Order of Magnitude estimate by a significant margin. This estimate was reviewed further and an independent estimating effort was performed. The current Total Project Cost for the proposed replacement Combined Heat and Power Plant is \$245M. Value engineering will be performed once the cost estimate is finalized to explore potential cost savings without affecting the performance parameters of the proposed facility.

In addition to pursuing the solid fuel option, a cost estimate is being prepared for a natural gas option for UAF, should reasonably priced natural gas become available. This is being prepared as a contingency as there does not appear to be a reliable, reasonable cost natural gas supply available to UAF in the next 5-10 years. It is anticipated that a natural gas plant will be about 60 percent of the cost of constructing a solid fuel plant, but annual operating costs (primarily fuel) for the natural gas plant would be much higher. The cost estimate is not available at the time of this writing but is anticipated prior to the April Board of Regents' meeting and can be discussed.

Background Contained in Previous Reports

At the direction of the Vice Chancellor for Administrative Services, a working group was established in early 2010 to re-evaluate the 2006 recommendations and consider new options. The circumstances and economics for coal, natural gas, and other alternative fuels have changed since 2006, and it is prudent to revisit the plan in light of current conditions.

The 2006 UDP consultant, GLHN, was hired to evaluate multiple options at a high level order of magnitude, and then to perform a detailed evaluation of two or three viable options. The process included solicitation of input from industry, public, and the campus. Ten alternatives were evaluated and were narrowed to two options: a coal/biomass boiler and a natural gas turbine with heat recovery for heat.

A detailed evaluation which included an independent peer review was completed and a recommendation for a solid fuel (biomass/coal) Circulating Fluidized Bed Boiler was forwarded to Chancellor Rogers for approval. A major concern for evaluating natural gas options is to determine when adequate quantities may be available in Fairbanks and what the price may be. Another factor will be evaluating the risk associated with long-term price volatility. The risk of permitting a coal/biomass facility is also being evaluated.

The result of this work group was a recommendation that prepares UAF to efficiently and reliably heat and power the UAF campus for the next 40 years. Chancellor Rogers approved the recommendation for a solid fuel (coal/biomass) Circulating Fluidized Bed boiler.

FY13 Funding and Construction Plans for Utilities and the Atkinson Plant

The FY13 R&R appropriation contains three items related to UAF Utilities:

- Critical Electrical Distribution Renewal Phase 2
Connects GVEA and UAF generators - \$8.5M plus \$5.25M bond funding
- Atkinson Heating Plant Critical Utilities Revitalization
Three critical items - \$0.9M plus \$1.0M Bond funding
- Atkinson Heating Plant Boiler and Turbine Replacement
Design and permitting for \$245M project - \$3.0M

The Atkinson Heating Plant Critical Utilities Revitalization project will upgrade needed items even if the new boilers and turbine are installed. Many components of the existing plant will be needed for redundancy in order to provide reliable power, heat and other utilities to the UAF campus.