

UAF Infrastructure Updates Information Item

UAF Combined Heat and Power Plant Replacement

Project Update

The consulting team of Stanley Consultants and SLR, Inc. has been advancing work towards the major deliverables of a preliminary design; cost estimate and air permit application. The preliminary design and cost estimate were submitted at the end of July 2012 and the air permit could be submitted as early as October 2012. The intermediate milestones that have been met are:

- Approval by ADEC of an air monitoring site near old University Park Elementary just southeast of the new power plant.
- Plant size optimization analysis
- Preliminary Cost Estimate
- Review of permitting schedule

The preliminary cost estimate exceeded an earlier Order of Magnitude estimate by a significant margin. This estimate is being reviewed further and an independent estimating effort will be performed.

The cost estimate, although an important component does not affect the planning amount included in the FY14 budget request. It is anticipated that project funding after the initial planning request may be requested over at least two years or could be considered in larger general obligation bond proposal.

Background

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 as the favored approach and has been shared with the Board in previous updates. 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.

FY13 Funding and Construction Plans

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 UA revenue bond funding
- Atkinson Heating Plant Critical Utilities Revitalization
Three critical items - \$0.9M plus \$1.0M UA revenue bond funding
- Atkinson Heating Plant Boiler and Turbine Replacement
Design and Permitting for \$200M 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.

Highlights since Last Report to Board of Regents

- The contract for the replacement of the deaerator tank, feedwater heater and key high pressure valves was awarded in May 2012 to Kiewit Building Group. The work will be completed by November 1, 2012.
- A campus-wide shutdown was needed on August 11-12 to install key valves to allow later installation of the deaerator tank and high pressure steam bypass. Crews worked continuously to accomplish the work in two days. The last planned shutdown of the plant was in the early 1980s.
- Critical Electrical Renewal: The new switchgear was energized on July 20, 2012. Five buildings will be converted to the new system by the end of September 2012. The rest of the buildings will be converted to the new system in 2013 and 2014.