



UAF Combined Heat and Power (CHP) Plant – Information Item Board of Regents FLMC – February 2020

Project Update

The UAF Combined Heat and Power (CHP) Plant project is operational. In late December and early January, two significant milestones were accomplished: boiler emissions and performance testing. The boiler was source tested at full load and met the air quality permit and the contract requirements for the levels of emissions in the plant discharge. The performance testing for efficiency and load were performed before and after the holiday break and we are awaiting the final report. The preliminary results indicate the boiler has met all of the required performance standards.

As the boiler enters the first 12-months of regular operations, additional commissioning, tuning, and punch list items will be completed to ensure the long-term reliability and maintainability of the plant. The major punch list and deficiency items requiring corrective actions are:

- Condensate Polisher Replacement: replacement of existing system to increase capacity
- Boiler Feedwater Pumps: rebuild one existing pump and install a replacement pump
- Excessive Coal Spillage: material handling system improvements
- MDC Blower Installation: additional fan needed for ash return system
- Primary Air Fan Transformer Replacement: related to the 2nd transformer incident

Due to the nature of these items, the new plant will need to be operated at low loads or shutdown intermittently to safely make the repairs. UAF and the major contractors are coordinating the efforts with UAF Utilities Operations to reduce any impacts to the Fairbanks Campus. The corrective work is scheduled for completion by July 2020.

A Project Change Request (PCR) to increase the Total Project Cost (TPC) is being presented to the Facilities and Land Management Committee at the February 2020 meeting. The TPC will increase from \$250,400,000 to \$255,000,000, for a total project increase of approximately 3%, which is well below the industry average of 10-15% for coal fire power plants and will allow for necessary payment of contractors while other insurance claims related to delays or warranties take time for appropriate submission and resolution.

Commissioning Milestones

- Power generated from steam turbine using Atkinson Steam September 4, 2018
- Boiler 1st fire test on natural gas September 25, 2018
- Boiler 1st fire on coal December 19, 2018
- Steam turbine performance test April 2019
- Portion of air quality testing (RATA, COMS) July 25, 2019
- Mechanical completion/start of commissioning and testing July 2018
- Boiler test and tune Sept to Dec. 2019
- Air Quality Permit Test passed December 19, 2019
- Boiler Performance Test passed December 23, 2019
- Boiler Operational December 24, 2019
- Substantial Completion Target March 2020

Upcoming Tasks

- 30-day Availability Testing On-going
- Punchlist and Corrective Work July 2020

UAF Combined Heat and Power Plant



Project Description:

The Combined Heat and Power Plant project consists of the construction of a new plant with one (1) 240,000 lb/hr circulating fluidized bed boiler that will use coal, and potentially biomass, to provide 17MW of electric power and steam for heating the UAF Campus.

Project Team:

Designer: Stanley Consultants, Inc.
Contractor: Haskell/Davis JV

Total Project Cost:
TPC \$250,400,000 (PCR Pending FLMC Approval)
CCA \$175,840,053

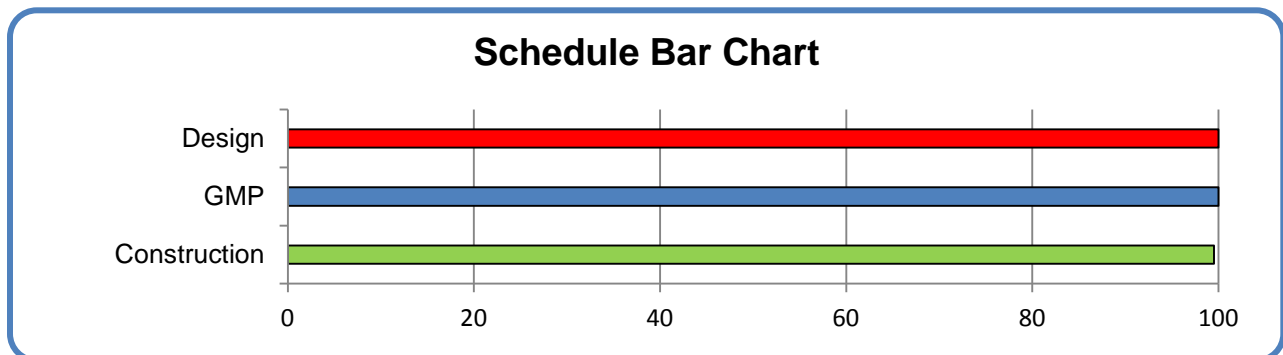
Schedule:

Planning & Design: September 2012 - October 2016
Advertising & Award: July 2014 – June 2015 (RFP to CMAR)
Construction: July 2015 – June 2018
Substantial Completion: March 2020
Operational: December 24, 2019

Funding Source:
Capital Funds, Municipal Bond Funds, UA Revenue Bond, and UA Operating Funds

Board of Regents Approval & Motions:

Preliminary Project Approval: August 13, 2013
Formal Project Approval: December 13, 2013
Schematic Design Approvals: June 2014, April, June 2015
Project Change Request: August 2019
Project Change Request: February 2020 (pending FLMC)



Status Update:

See attached Information Item



Butrovich Computing Center Back-Up Power



Project Description:

The Butrovich Computer Center Back-Up Power project will install a diesel fired 800-kilowatt generator that will automatically back-up all loads in the data facility. The work will include revisions to the existing electrical equipment to ensure safe load transfer from utility power to the generator power.

Project Team:

Designer: Bettisworth North/RSA Engineering
Contractor: Amped Electric, Inc.

Total Project Cost:

TPC \$1,673,802
CCA \$1,341,695

Schedule:

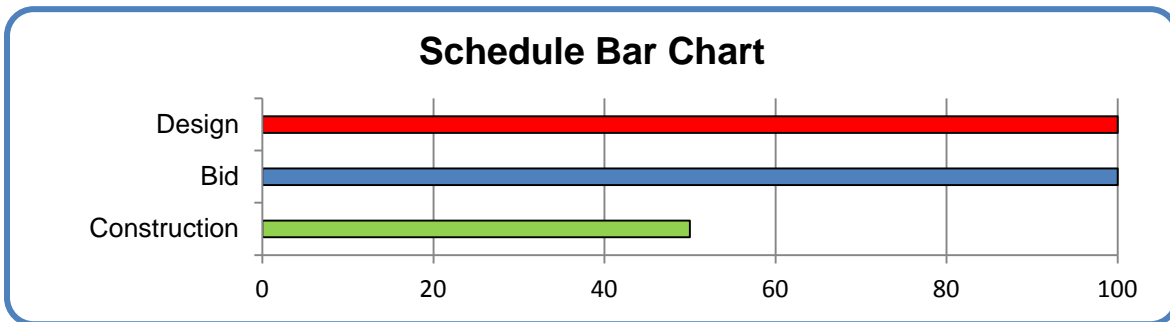
Planning & Design: August 2018-February 2019
Advertising & Award: April 2019-May 2019
Construction: May 2019 to May 2020

Funding Source:

UAF State Capital DM&R Appropriation
UA Statewide Butrovich Renewal/Replacement Fund

Board of Regents Approval & Motions:

Preliminary Project Approval: June 11, 2018
Formal Project Approval: June 11, 2018
Schematic Design Approvals: June 11, 2018
Project Change Request Approval: May 21, 2019
Project Change Request Approval: October 28, 2019



Status Update:

Major equipment is on order but the delivery dates are lagging behind the original schedule. Start-up of the new system will be delayed until May 2020 due a major design change that caused a delay in ordering the breakers for the existing electrical equipment that connects to the new generator. Amped Electric has installed conduits and wiring and other work in preparation for the equipment to arrive.



Campus Wide Exterior Building Entry Upgrades



Project Description:

The Campus Wide Exterior Building Entry Upgrades project will upgrade building entrances from key access to electronic lock/card access. The work will extend the life of the building entrances, reduce maintenance cost and daily cost to manually lock/unlock doors, provide code and ADA compliant entrances, and improve safety of building occupants. Buildings are being prioritized based on current condition of their entrances and the number of exterior keys at large.

Project Team:

Designer: UAF Facilities Services
Contractor: Multiple

Total Project Cost:

TPC \$1,300,000
CCA \$610,000

Schedule:

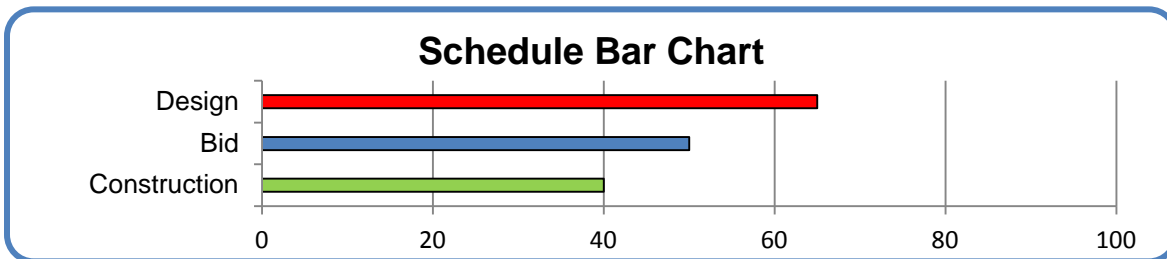
Planning & Design: February 8, 2019 – March 15, 2020
Advertising & Award: February 17, 2019 – March 22, 2019
Construction: June 10, 2019 – August 21, 2020

Funding Source:

UAF State Capital Appropriation and General Fund
Deferred Maintenance and Renewal

Board of Regents Approval & Motions:

Preliminary Project Approval: October 22, 2018
Formal Project Approval: October 22, 2018
Schematic Design Approvals: October 22, 2018
Project Change Request: April 9, 2019



Status Update:

Construction is complete at Gruening, Fine Arts, Reichardt, Wood Center, and Brooks Buildings. Patty Center, Chapman and Lola Tilly are in design with construction scheduled for summer 2020. Additional FY20 Deferred Maintenance and Renewal funding has been approved to continue this critical project.

