Board of Governors Facilities Workshop 2017

FAMU INFRASTRUCTURE – CENTRAL PLANT IMPROVEMENTS

2018-19 LBR: $4.85 M

FAMU – Infrastructure Central Plant Improvements

Project Site & Actual Start Date - 2017

Current Situation

- Significant critical deferred maintenance at Central Plant

- Three older inefficient steam boilers
  - Boiler #1 is not operable (Immediate need)
  - Boiler #2 is operational "has a large number of internal tubes capped off, and frequent repairs to the gas and water delivery systems are made to maintain steam delivery to the campus heating system"
  - Boiler #3 has large number of internal tubes capped off (very inefficient)

- Well aquifer cooled electric water chillers (total capacity of 6,600 tons). As the University grows and expands, so would the need for chilled water to efficiently cool the buildings. (Immediate need)

- The Central Plant Chilled Water Condenser cooling system is accomplished through the ability to utilize up to four (4) aquifer-fed condenser supply wells. This amount of water is then directed to only one aquifer return well. If a collapse of this one well occurs, all cooling to campus buildings could be stopped until a new well could be drilled. (Immediate need)

2018-19 LBR: $4.85 M

FAMU – Infrastructure Central Plant Improvements

Prior Funding	**NA**
2018-19 Request	$4,850,000
Future Request	
2019-20 Request	$4,400,000
2020-21 Request	$7,850,000
Other – (Identify Funding Sources)	$0
Total Project Budget	$17,100,000

Projected PO&M Costs

Proposed Solution

2018-19 – Immediate Need

- Replacement Boiler, Phase I ($1.3M)
- Chiller #5 Addition ($2.7)
- Second Aquifer Return Well ($850K)

Note: While the problem has been clearly identified, the exact proposed solution will be dependent on further engineering analysis, as well as the level of funding provided.

Due to criticality of the system, University has started working on the boiler replacement design. This work is 90% complete.

FAMU – Infrastructure Central Plant Improvements

Project Size:

Net Square Footage	NA
Gross Square Footage	NA

Educational Plant Survey Approved by the Board of Governors: **2010**

*Utility/Infrastructure is the #1 Priority System wide

Return on Investment (ROI)

Capital Improvement/Enhancements	Benefit
• Hi-Efficiency Boiler with Economizer	• Reliable source of steam, energy reduction
• Hi-Efficiency Chiller	• Reliable source of chilled water, energy reduction
• Aquifer Return Well	• System redundancy