UNIVERSITY OF ALASKA
FAIRBANKS

FORMAL PROJECT APPROVAL

Name of Project: Atkinson Power Plant Renewal Phase 1

Location of Project: University of Alaska, Fairbanks Campus

Project Number: 2010140 BARN

Date of Request: August 23, 2010

Total Project Cost:	**$ 1,495,000**
Approval Required:	**Chair F&LMC**
Prior Approvals:	**Preliminary Project Approval (November, 2008)**

POLICY CITATION

In accordance with Regents' Policy 05.12.042, Formal Project Approval (FPA) represents approval of the Project including the program justification and need, scope, the Total Project Cost (TPC), and funding plan for the project. It also represents authorization to complete the development of the project through the schematic design, targeting the approved scope and budget, unless otherwise designated by the approval authority.

An FPA is required for all projects with an estimated TPC in excess of $2.5 million in order for that project's inclusion of construction funding to be included in the university's capital budget request, unless otherwise approved by the Board.

The level of approval required shall be based upon TPC as follows:

- TPC > $4 million will require approval by the Board based on recommendations from the Facilities and Land Management Committee (F&LMC).
- TPC > $2 million but ≤ $4 million will require approval by the F&LMC.
- TPC > $1 million but ≤ $2 million will require approval by the Chairperson of the F&LMC.
- TPC ≤ $1 million will require approval by the university's Chief Finance Officer (CFO) or designee.

RATIONALE AND RECOMMENDATION

Background

UAF's Atkinson Power Plant and utilidors are the heart of campus infrastructure for providing heat, light, water, and other utilities to the students, staff, and faculty. As the campus expands, the demand on these aging utilities also increases. The power plant was originally constructed in 1964 and consisted of two stoker fired coal boilers and two 1.5 MW backpressure turbines. This equipment is still in service, and UAF depends on its reliable operation to supply heat and power to campus.

There have been additions and upgrades to the plant since 1964, but there has not been a major renewal of the plant since original construction. An oil fired boiler was installed in 1972 to provide additional steam capacity and reliability. The next major improvement to the plant was the installation of a 10MW steam extraction turbine in 1982 which was followed by the installation of another oil fired boiler. The last upgrade of the plant was the installation of a 9.6MW diesel engine generator in 1998.

The plant has provided the campus with reliable heat and power for many years, but an event in December, 1998 highlighted the need to renew aging equipment. The plant narrowly avoided a catastrophic failure when a boiler tube rupture filled the plant and switchgear room with water and steam. The resulting six hour power outage had a major impact on the campus, and it highlights the need to replace or rehabilitate the major equipment that is now 45 years old.

In 2006, UAF hired a consultant to perform a comprehensive study of the condition of the existing utility systems, including the Atkinson Power Plant. The study also evaluated the need for utility expansion to keep pace with projected campus growth. The resulting Utility Development Plan contained the following recommendations:

> *"In order to continue to reliably serve all campus utility needs over the next twenty years UAF must:*
>
> - *Invest substantially in utility system capital asset renewal and utility infrastructure improvements*
> - *The best long term utility strategy is renewal and expansion of the Atkinson plant. This strategy is the best strategic, operational and financial fit for UAF."*

The funding to implement the total scope of work contained in the 2006 Utilities Development Plan will not be available in one appropriation, thus the work will be done in a phased approach. In FY11, $2.6M has been allocated to Atkinson Renewal. $860,000 was allocated to the Boiler Nos. 1&2 Superheater Tube Replacement project and $245,000 was allocated to the Boiler No. 4 Air Preheater Tube Replacement project. These projects are critical to the current operations, and separate approvals were obtained to allow work to proceed immediately.

29M

The Atkinson Plant Renewal total capital request totals over $20M and consists of 21 separate items in addition to work that is proposed to be done with the FY11 funds. The project scope below is Phase 1 of what is expected to be several phases. The Phase 1 work is the highest priority for the continued reliability of the existing facility.

Project Scope

The scope of Phase 1 consists of the construction of a redundant aeration basin and reconstruction of the existing aeration basin for the water treatment plant. The existing aeration basin is severely corroded and needs replacement. Unfortunately, the only way to keep the water treatment plant operational during the reconstruction of the existing basin is to construct a redundant basin. In the long term, the redundant basin will allow maintenance without having to shut down the water treatment plant. The construction of a redundant basin will require a small addition of approximately 1,500 sf to the water treatment plant building.

In addition to the work at the water treatment building, Phase 1 work will include planning and updating of existing cost estimates for work in future phases. This planning work will include a complete inspection of the boiler tubes for Boiler Nos. 1 and 2. This inspection will help determine the importance and priority of the proposed replacement of the tubes.

Variance Report

None

Proposed Total Project Cost and Funding Source(s)

FY11 R&R Appropriation

Estimated Annual Maintenance and Operating Costs (O&M)

This project should result in a small reduction in O&M costs which will be offset by the increased heating costs for the small amount of additional square footage.

Consultant(s)

TBD

Other Cost Considerations

None

Backfill Plan

N/A

Schedule for Completion

DESIGN	
Conceptual Design	November, 2010
Formal Project Approval	*September, 2010*
Schematic Design	January, 2011
Schematic Design Approval	*February, 2011*
Construction Documents	May, 2011
BID & AWARD	
Advertise and Bid	June, 2011
Construction Contract Award	July, 2011
CONSTRUCTION	
Start of Construction	July, 2011
Date of Beneficial Occupancy	December, 2011

Procurement Method for Construction
The procurement method will be determined after concept design is complete. It will most likely be standard bid, but design-build is an option.

Affirmation
This project complies with Board Policy and the campus master plan.

Action Requested
Approval to develop the project documents through schematic design.

Supporting Documents
One Page Budget
List of Atkinson Renewal Items

Recommend Approval:

Kit Duke, Chief Facilities Officer — *Date* 8.27.10

Formal Project Approval is hereby granted:

Timothy Brady, Chair, Facilities and Land Management Committee — *Date* 8-31-10

UNIVERSITY OF ALASKA			
Project Name:	Atkinson Plant Renewal Phase 1		
MAU:	UAF		
Building:	Atkinson Power Plant	Date:	August 23, 2010
Campus:	Fairbanks	Prepared By:	M. Ruckhaus
Project #:	2010140	Account No.:	571297-50216
Total GSF Affected by Project:	N/A		

PROJECT BUDGET		FPA Budget
A. Professional Services		
Advance Planning, Program Development		$0
Consultant: Design Services		$140,000
Consultant: Construction Phase Services		$0
Consul: Extra Services (List:_____)		$0
Site Survey		$0
Soils Testing & Engineering		$0
Special Inspections		$0
Plan Review Fees / Permits		$0
Other		$0
Professional Services Subtotal		**$140,000**
B. Construction		
General Construction Contract (s)		$1,060,000
Other Contractors (List:_____)		$0
Construction Contingency		$100,700
Construction Subtotal		**$1,160,700**
Construction Cost per GSF		***N/A***
C. Building Completion Activity		
Equipment		$0
Fixtures		$0
Furnishings		$0
Signage not in construction contract		$0
Move-Out Cost/Temp. Reloc. Costs		$0
Move-In Costs		$0
Art		$0
Other (List:_____)		$0
OIT Support		$5,000
Maintenance/Operation Support		$5,000
Building Completion Activity Subtotal		**$10,000**
D. Owner Activities & Administrative Cost		
Project Planning and Staff Support		$58,982
Project Management		$114,611
Misc Expenses: Advertising, Printing, Supplies		$7,000
Owner Activities & Administrative Cost Subtotal		**$180,593**
E. Total Project Cost		**$1,491,293**
Total Project Cost per GSF		***N/A***
F. Total Appropriation(s)		$1,495,000