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ACTION UNDER PRESIDENT'S AUTHORITY--AMENDMENT OF THE BUDGET FOR CAPITAL IMPROVEMENTS AND THE CAPITAL IMPROVEMENT PROGRAM AND APPROVAL OF EXTERNAL FINANCING FOR CENTRAL PLANT CHILLER AND COOLING TOWER RENEWAL, DAVIS CAMPUS

It is recommended that:

Pursuant to Standing Order 100.4(q)

(1) The President amend the 2006-07 Budget for Capital Improvements and the Capital Improvement Program to include the following project:

Davis: Central Plant Chiller and Cooling Tower Renewal - preliminary plans, working drawings, and construction - $7,749,000 to be funded from external financing.

Pursuant to Standing Order 100.4(nn)

(2) The President approve external financing not to exceed $7,749,000 to finance Central Plant Chiller and Cooling Tower Renewal, subject to the following conditions:

a. Interest only, based on the amount drawn down, shall be paid on the outstanding balance during the construction period;

b. Repayment of financing shall be from the Davis campus share of Federal Indirect Cost Recovery deposited to Fund 19933, which shall be in amounts sufficient to pay the debt service and to meet the related financing requirements; and

c. The general credit of The Regents shall not be pledged.

(3) The Officers of The Regents be authorized to provide certification to the lender that interest paid by The Regents is excluded from gross income for purposes of federal income taxation under existing law.

(4) The Officers of The Regents be authorized to execute all documents necessary in connection with the above.

A Key to the abbreviations and the project description are attached.

KEY

Capital Improvement Program Abbreviations

S	Studies
P	Preliminary Plans
W	Working Drawings
C	Construction
E	Equipment
-	State Funds (no abbreviation)
F	Federal Funds
G	Gifts
HR	Hospital Reserve Funds
I	California Institutes for Science and Innovation
LB	Bank Loans or Bonds (External Financing includes Garamendi, Bonds, Stand-By, Interim and Bank Loans)
LR	Regents' Loans (Internal Loans)
N	Reserves other than University Registration Fee (Housing and Parking Reserves)
R	University Registration Fee Reserves
U	Regents' Appropriations (President's Funds, Educational Fund)
X	Campus Funds
CCCI	California Construction Cost Index
EPI	Equipment Price Index

Budget for Capital Improvements and
Capital Improvement Program
Scheduled for
Regents' Allocation, Loans, Income Reserves, University Registration Fee Reserves,
Gift Funds, and Miscellaneous Funds

Campus and Project Title (Total Cost)		Proposed 2006-07	
Davis			
Central Plant Chiller and Cooling Tower Renewal	P	$218,000	LB
	W	$324,000	LB
	C	$7,207,000	LB
($7,749,000)			

DESCRIPTION

The Davis campus proposes to replace three inefficient steam-powered chillers and an obsolete cooling tower at the Central Heating and Cooling Plant with a new electric chiller and cooling tower. The capacity of the new equipment would equal approximately the capacity of the replaced equipment. By replacing the cooling tower, the campus would reduce the risk of a failure in the chilled water system, restore its chilled water generating capacity, and gain long-term savings in its purchased utilities budget.

Project Background

The Central Heating and Cooling Plant (CHCP) generates chilled water that is distributed throughout the campus to cool building interiors. The CHCP contains nine steam-fired absorption-chilling machines and three cooling towers. Gas-fired boilers generate steam that runs turbines which power the chillers. The nine chillers are configured into three "trains" (B, C, and D). Each train includes a dedicated cooling tower that exposes re-circulating water to forced air. An engineering assessment commissioned by the campus concludes that the cooling towers for the C and D trains are in poor condition and can no longer be expected to function reliably.

In September 2006, The President approved the Central Plant Chiller Renewal and Energy Improvement project at a total project cost of $7,837,000. This enabled the campus to replace the B-train chillers with 5,000 tons of high efficiency electric chillers. The existing B-train cooling tower will remain. The project is now in construction and scheduled for completion in May 2007.

The wood material in the "C-train" cooling tower is severely damaged, with extensive surface rot and internal decay. Continued reliance on an obsolete tower presents a risk of system failure. A

failure in the chilled water system would seriously disrupt the instruction and research activities on the Davis campus and could lead to loss of valuable temperature sensitive resources.

Project Description

This project would replace the three C-train chillers and the C-train cooling tower, which have reached the end of their useful life, with a 2,500-ton electric chiller and a new fiberglass cooling tower. The project would also install electrical conduits, cables, transformers, switching gear, and system controls needed to support the new chilled water equipment and renew useful life.

Existing chillers in the plant are powered by turbines using steam from natural gas fired boilers. The replacement chillers would be powered by electricity. Because electric chillers are more efficient than steam-driven chillers and because the Davis campus has access to low-cost electricity through its U.S Western Area Power Administration (WAPA) contract, the project would significantly reduce purchased utilities costs for the campus by minimizing high-priced gas purchases.

Construction of the project would begin in February 2008, with estimated completion in November 2008. Additional project cost information is presented in Attachment 1.

The D-train chillers and tower would remain as off-line capacity, to be used only for brief peaking periods during summer heat waves. The campus would return when funding is available to complete the renewal of the three D-train chillers.

Program Background

In February 1998, The Regents approved a new multi-year funding approach to address the need for regular, systematic renewal of existing facilities and to reduce the backlog of deferred maintenance projects. This approach used external financing, with repayment of bonds to be made from a portion of the increase over the prior year's UC General Funds, specifically nonresident tuition funds. The amount of funding to be provided for debt service on an annual basis was limited to no more than 5% of the annual increase in UC and State General Funds. This new approach provided a significant level of funding for the systemwide program for the next several years, emphasizing a systems renewal rather than a repair approach in addressing the deferred maintenance backlog.

In the initial program year, 1998-99, this bond-financed program provided $64.8 million for the systemwide deferred maintenance and capital renewal program. Additional debt was authorized by The Regents for the program in June 1999 ($64 million), in May 2000 ($66 million), and in May 2001 ($45 million), resulting in an infusion of almost $240 million for capital renewal over a four-year period. A total of approximately $22 million per year in UC General Funds would be used to pay debt service for all four years of the programs. Only high priority projects with long-term benefits (minimum useful life of 15 years) were eligible to be funded through this mechanism.

In 2002-03, the systemwide debt financing program for capital renewal and deferred maintenance was suspended because University funds used to support debt financing had to be redirected to offset State funding cuts. However, in order to allow individual campuses to continue to address their capital renewal and deferred maintenance needs, the University initiated a new funding program to authorize campuses to finance long-term debt for this program by pledging a portion of their UC General Fund income to fund high priority projects. Several campuses participated in this program during the four-year period 2002-03 to 2005-06, generating $85 million in bond funding for this purpose to date.

The University is committed to continuing the deferred maintenance and capital renewal program. This proposal would allow the Davis campus to direct a portion of their share of Federal Indirect Cost Recovery deposited to Fund 19933 (known internally as part of the University General Funds) to provide long-term financing for its deferred maintenance and facilities renewal program.

Environmental Classification

In accordance with the California Environmental Quality Act (CEQA) and the University Guidelines for the Implementation of CEQA, as amended, the proposed project is classified Categorically Exempt, Class 1 (Existing Facilities). In addition, none of the exceptions for application of a categorical exemption apply.

Financial Feasibility

The total cost for the Central Plant Chiller and Cooling Tower Renewal project would be $7,749,000 to be funded from external financing.

The Davis campus would use its share of the Federal Indirect Cost Recovery deposited to campus University General Funds as the pledged source of repayment for the external financing. The projected annual debt service for the proposed project would be approximately $772,000, calculated at an interest rate of 5.50% for 15 years. The total annual debt service, including previously approved and pending projects, would be approximately $2,278,000, resulting in debt service coverage ration of 4.41.

Additional financial feasibility information is shown in Attachment 2.

Approved by:

Robert C. Dynes 5/10/07
Robert C. Dynes Date
President of the University

Attachments

ATTACHMENT 1

PROJECT STATISTICS
CENTRAL PLANT ENERGY IMPROVEMENTS
CAPITAL IMPROVEMENT BUDGET
DAVIS CAMPUS
CCCI 5504

Cost Category	Amount	% of Total
Site Clearance	$0	0.0%
Construction	$6,256,000	80.7%
Exterior Utilities	$0	0.0%
Site Development	$0	0.0%
Fees	$486,000	6.3%
A&E/PP&C	$278,000	3.6%
Surveys, Tests, Plans	$75,000	1.0%
Special Items *	$341,000	4.4%
Contingency	$313,000	4.0%
Total P-W-C	**$7,749,000**	100%
Group 2 & 3 Equipment	$0	
Total Project Cost	**$7,749,000**	

* Special items include value engineering and independent reviews, agency review, and interest during construction.

ATTACHMENT 2

SUMMARY FINANCIAL FEASIBILITY ANALYSIS

Project Title:

Central Plant Chiller and Cooling Tower Renewal

Total Estimated Project Cost:	$7,749,000

Proposed Source(s) of Funding:

External Funding	$7,749,000

Proposed Financing Terms:

Interest Rate: 5.50%
Duration: 15 Years

Pledged Source of Repayment (FY 2006-07):

Federal Indirect Cost Recovery Campus' Allocation of Fund 19933	$10,048,000

Estimated Annual Expense:

Existing Annual Debt Service	$1,506,000
Projected Annual Debt Service (proposed project)	$772,000
Total	$2,278,000

Debt Service Coverage	4.41x