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**ACTION UNDER PRESIDENT'S AUTHORITY – APPROVAL OF AMENDMENT TO
THE CAPITAL IMPROVEMENT PROGRAM AND EXTERNAL FINANCING FOR
THE IRVINE CAMPUS 2005-06 DEFERRED MAINTENANCE, FACILITIES
RENEWAL, AND ENERGY CONSERVATION PROGRAM**

It is recommended that:

Pursuant to Standing Order 100.4(q)

- (1) The President amend the 2005-06 Budget for Capital Improvements and the Capital Improvement Program to include the following:

Irvine: 2005-06 Deferred Maintenance, Facilities Renewal, and Energy Conservation Program – preliminary plans, working drawings, and construction – \$6,800,000, to be funded from external financing

Pursuant to Standing Order 100.4(nn)

- (2) The President be authorized to obtain financing not to exceed \$6,800,000 prior to awarding a construction contract:
 - 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 Irvine 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 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 in connection with the above.

DESCRIPTION

This item requests approval of the Irvine campus 2005-06 Deferred Maintenance, Facilities Renewal, and Energy Conservation Program in the amount of \$6,800,000, to be funded from external financing. The projects included in the program address the need to retrofit lighting fixtures, to re-commission and rebalance existing building heating, ventilation, and air conditioning (HVAC) systems, and to install or replace energy management systems and associated controls in selected campus buildings. Addressing the backlog of deferred maintenance, the periodic need to renew facilities, and the continuation of energy conservation efforts is a high priority for the University.

The Irvine campus has developed a multi-faceted plan to reduce its purchased utilities funding deficit for State-funded buildings, now estimated at approximately \$2.7 million for the 2005-06 fiscal year. A major component of the plan includes the implementation of energy efficiency measures, including the improvements proposed in this program. The proposed program targets three building systems – lighting, HVAC, and building energy controls – and also includes a substantial deferred maintenance component.

A list of projects proposed to be funded by this program, their estimated cost, and the campus buildings in which this work will be carried out is included as Attachment 1. All of the work will be completed in State-supported facilities. While all three projects are designed to reduce the energy consumption, they also address the backlog of deferred maintenance and capital renewal needs associated with lighting, HVAC, and building monitoring systems.

The lighting retrofit will include the replacement of older standard lamps with brighter, more efficient lamps in response to the impending obsolescence and the potentially hazardous nature of the existing lamps, which emit trace mercury vapors and will not be manufactured after 2006. Overall, the lighting retrofit project will replace approximately 31,000 fixtures throughout the campus. The majority of the cost savings comes from the lower operating costs of T-8 fixtures, which consume 30% less energy than the older technology lamps and ballasts while at the same time producing 10% more light.

HVAC renewal projects include the identification and repair of failing or inefficient HVAC systems or system components in order to eliminate energy waste and realize substantial cost savings. Heating, ventilation and air conditioning (HVAC) systems are one of the highest users of electricity on campus. In many buildings, system components are outdated and do not meet the energy efficiency standards of modern equipment. In addition, many systems no longer work as originally designed due to changes in building use, the installation of additional research equipment, and modifications to existing space. Re-commissioning and rebalancing improves and optimizes a building's operation and maintenance requirements. The majority of funds in this project will be used to renew the HVAC systems in two major science laboratory buildings, McGaugh Hall (biological sciences) and Reines Hall (physical sciences). Built in the early 1990s, the HVAC systems in both buildings have failing components, maintenance problems, and overall issues with the reliability, serviceability, and energy usage of the equipment. The goal is to eliminate energy waste, to obtain substantial operational cost savings, to replace components that have reached the end of their service life, and to identify and repair existing building problems.

Building energy controls projects include the installation or replacement of controls that connect buildings to the campus's energy management system to allow for the uniform monitoring and balancing of building utility loads throughout the campus. The energy monitoring system allows campus personnel at the Central Plant to observe and supervise real-time energy use in each of these buildings. By monitoring the data, the campus is able to practice demand management and regulate campus energy consumption, as well as forecast future energy use to determine the best assignment of energy and financial resources. Not all campus buildings are connected to the Central Plant, and not all buildings have the capability to monitor systems in adequate detail to provide information for management and planning purposes. This project will connect eight remaining campus buildings to the existing monitoring system, upgrade components and software to provide consistent levels of detail for building energy use, and install metering of high use systems to allow accurate monitoring of energy use.

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 will be used to pay debt service for all four programs. Only high priority projects with long term benefits (minimum useful life of 15 years) were eligible to be funded through this mechanism. This program had a significant impact on reducing the backlog of the highest priority deferred maintenance projects as well as funding many facilities renewal projects.

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, including Berkeley, participated in this program during the three-year period 2002-03 to 2004-05, generating \$47 million in bond funding for this purpose.

The University is committed to continuing this program, as well as its ongoing energy conservation program. This proposal would allow the Irvine 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, facilities renewal, and energy conservation program.

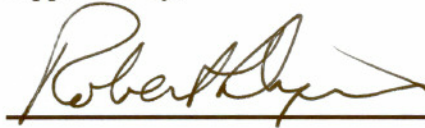
Environmental Classification

In accordance with the California Environmental Quality Act and the University Guidelines for the Implementation of CEQA, as amended, the proposed projects are classified Categorically Exempt, Class 1 (Existing Facilities).

Financial Feasibility

The total cost of the Irvine campus 2005-06 Deferred Maintenance, Facilities Renewal, and Energy Conservation Program would be \$6,800,000, to be supported with external financing. A summary of the financial feasibility analysis is presented in Attachment 2. The campus would use a portion of 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 is estimated to be \$688,755, calculated at an interest rate of 5.75% for 15 years. The total projected annual debt service from this source, including debt service for the Irvine campus 2002-03 Deferred Maintenance and Capital Renewal Program, would be \$1,493,855, resulting in debt service coverage of 3.79 times.

Approved by:



12/19/05

Robert C. Dynes
President of the University

Date

Attachments