

FACILITIES MANAGEMENT
SAN JOSÉ STATE UNIVERSITY

Audit Report 12-43
September 4, 2012

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ABBREVIATIONS

AVP	Associate Vice President
CO	Office of the Chancellor
CPDC	Capital Planning, Design and Construction
CMMS	Computerized Maintenance Management System
CSU	California State University
FD&O	Facilities Development and Operations
EO	Executive Order
FRRM	Facilities Renewal Cost Model Project
ICSUAM	Integrated California State University Administrative Manual
OUA	Office of the University Auditor
SAM	State Administrative Manual

EXECUTIVE SUMMARY

As a result of a systemwide risk assessment conducted by the Office of the University Auditor (OUA) during the last quarter of 2011, the Board of Trustees at its January 2012 meeting directed that *Facilities Management* be reviewed. The OUA had previously reviewed *Operations and Maintenance of Plant* in 2000.

We visited the San José State University campus from June 11, 2012, through July 20, 2012, and audited the procedures in effect at that time.

Our study and evaluation did not reveal any significant internal control problems or weaknesses that would be considered pervasive in their effects on facilities management activities. However, we did identify other reportable weaknesses that are described in the executive summary and body of this report. In our opinion, the operational and administrative controls for facilities management activities in effect as of July 20, 2012, taken as a whole, were sufficient to meet the objectives stated in the “Purpose” section of this report.

As a result of changing conditions and the degree of compliance with procedures, the effectiveness of controls changes over time. Specific limitations that may hinder the effectiveness of an otherwise adequate system of controls include, but are not limited to, resource constraints, faulty judgments, unintentional errors, circumvention by collusion, and management overrides. Establishing controls that would prevent all these limitations would not be cost-effective; moreover, an audit may not always detect these limitations.

The following summary provides management with an overview of conditions requiring attention. Areas of review not mentioned in this section were found to be satisfactory. Numbers in brackets [] refer to page numbers in the report.

MAINTENANCE PROGRAM AND COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM [6]

Maintenance and review of the computerized maintenance management system (CMMS) work order process needed improvement. Specifically, the work order backlog had not been adequately reviewed and was significantly aged, and work orders were not always properly closed in the CMMS.

UTILITIES MANAGEMENT [7]

Monthly energy consumption reports were not reviewed and approved before they were submitted to the Office of the Chancellor.

PHYSICAL AND LOGICAL SECURITY [7]

The campus did not adequately authorize and monitor individuals with key access to campus buildings. Also, the campus had not developed and documented formal policies and procedures for requesting, authorizing, granting, monitoring, or rescinding access to the CMMS.

INTRODUCTION

BACKGROUND

The Legislative Analyst's Report on the 1979/80 budget addressed the need to protect the substantial public investment represented by California State University (CSU) facilities, and the Legislature subsequently directed the CSU to implement a preventive maintenance program on each campus. In December 1979, a CSU Task Force on Plant Maintenance was appointed to explore preventive maintenance needs for the system. It concluded that the concept of preventive maintenance was too narrow in scope to accommodate the total maintenance needs of the CSU. Consequently, the concept of "planned/programmed maintenance," which incorporated preventive maintenance and systematic planning and programming, was proposed. The CSU Executive Council reviewed the task force report and approved the concept in March 1981. Since then, the CSU has issued a sequence of directives and executive orders to reflect the system's commitment to ensuring that facilities-related assets are adequately maintained.

In 1999, the Office of the University Auditor conducted an audit of *Operations and Maintenance of Plant* at ten campuses and issued a systemwide report. The report included exceptions related to planned/programmed maintenance, work order administration, cost recovery, and chargebacks and required facilities condition reporting to the Office of the Chancellor (CO). Several of the recommendations from the resulting systemwide report were incorporated into Executive Order (EO) 757, issued September 1, 2000, and later into EO 847, *Policy Statement on Facility Maintenance*, issued January 10, 2003. The latter is the most recent dictate on the subject.

In 2000, the CSU adopted the Facilities Renewal Cost Model Project (FRRM) with the long-term objective of securing adequate funding for deferred maintenance and renewal needs for CSU physical plants. FRRM implementation provided a standardized means for campuses to fulfill the requirement to prepare an annual five-year projection of deferred maintenance and capital renewal costs. It also provided the CO with information necessary for capital budgeting and planning.

Since the last audit and the adoption of FRRM, the CSU system has been confronted with funding appropriation challenges that have had a profound effect on facilities maintenance. The CSU support budget documentation for 2012/13 identifies a deferred maintenance need of \$470 million. However, this amount represents the highest priority projects out of an estimated \$1.6 billion in deferred maintenance and capital renewal backlog derived from the 2009/10 FRRM data. The model also concludes that absent investment of at least \$99 million per year to maintain the current backlog level, the need will grow to \$2.2 billion by 2016.

Meanwhile, appropriations for the CSU Capital Outlay budget have decreased significantly over the past several years, from \$410 million for 2007/08 to less than \$20 million in 2012/13. Between the fiscal years 2005/06 and 2008/09, the Trustees and the legislature provided for \$140 million within the budget for capital renewal projects, but that funding has since ceased. The Five-Year Capital Improvement Plan for 2012/13 reflects campus facility needs approaching \$6 billion. However, this number is artificially depressed by criteria, created to encourage campus prioritization, that limits the number of projects the campuses can request for funding. The CO's Capital Planning, Design and Construction (CPDC) office, in consultation with the Trustees, has been working on solutions for funding infrastructure renewal, seismic strengthening, and other capital priorities.

INTRODUCTION

The CSU codified its commitment to energy conservation and sustainability in February 1989 with the issuance of EO 538, *Policy Statement on Energy Conservation and Utilities Management for the California State University and Energy Consumption Reduction Goal for 1992/93 Compared to 1986/87*. This EO was superseded in August 2006 with EO 987, *Policy Statement on Energy Conservation, Sustainable Building Practices, and Physical Plant Management for the California State University*. This EO retained general operational provisions and sustainable building practices while adding the CSU Sustainable Measurement Checklist process. Since some of the deadlines for energy conservation goals outlined in the EO have expired, and other mandates within the EO have been deemed outdated, CPDC is considering options on how to update and issue new guidelines.

PURPOSE

Our overall audit objective was to ascertain the effectiveness of existing policies and procedures related to facilities management and to determine the adequacy of controls over related processes to ensure compliance with relevant Trustee policy, Office of the Chancellor directives, and campus procedures.

Within the overall audit objective, specific goals included determining whether:

- ▶ Administration of facilities management is well defined and includes clear lines of organizational authority and responsibility and documented delegations of authority.
- ▶ Management has established policies and procedures for facilities maintenance and utilities management and has developed the means to monitor and measure compliance with applicable laws and CSU policies.
- ▶ Facilities management risks have been identified, assessed, and monitored.
- ▶ A comprehensive planned/programmed maintenance schedule that captures all preventive maintenance and repair requirements is in place.
- ▶ The campus has effectively identified facility deferred maintenance and capital renewal needs and is reporting the information to the CO annually.
- ▶ The campus has implemented an effective computerized maintenance management system (CMMS) to ensure proper administration of maintenance tasks, including scheduling, costs management reporting, and productivity tools to account for resource utilization.
- ▶ The campus is preparing and submitting biennial facilities assessments and equipment audits to the CO in an accurate and timely manner.
- ▶ The campus has implemented effective and efficient custodial and groundskeeping programs that include productivity and performance standards to ensure the work is performed in an effective and efficient manner.
- ▶ The campus has implemented controls to ensure proper capture, tracking, and collection of costs for non-maintenance and auxiliary-related work orders.
- ▶ The campus has implemented an effective utility tracking system to capture and report information pertinent to CSU goals for sustainability and energy conservation.
- ▶ Keys and other physical access devices are issued to authorized individuals, and access devices are properly secured and monitored.
- ▶ Systems and applications under facilities management administration are adequately controlled and secured, and access rights are granted on a need-to-know basis.

SCOPE AND METHODOLOGY

The proposed scope of the audit as presented in Attachment A, Audit Agenda Item 2 of the January 24 and 25, 2012, meeting of the Committee on Audit stated that *Facilities Management* includes custodial services; groundskeeping; facility repairs, preventive maintenance, and renovations; and utility distribution. Proposed audit scope would include, but was not limited to, review of cost allocations; deferred maintenance; building and grounds conditions; sustainable building practices; materials and equipment inventory; and work order scheduling and control systems.

Our study and evaluation were conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing* issued by the Institute of Internal Auditors and included the audit tests we considered necessary in determining whether operational and administrative controls are in place and operative. This review emphasized, but was not limited to, compliance with Board of Trustee policies and Office of the Chancellor and campus policies, letters, and directives. The audit focused on procedures in effect from January 1, 2010, through July 20, 2012.

We focused primarily on the internal administrative and operations controls over facilities management activities. Specifically, we reviewed and tested:

- ▶ The campus framework for facilities management, including the required implementation of a CMMS and a utility tracking system.
- ▶ Methods by which the campus identifies, prioritizes, and monitors routine, preventive, and special maintenance projects.
- ▶ The capabilities and management utilization of a CMMS to capture and monitor task progress and to track resource allocations and costs.
- ▶ Methods by which the campus identifies and quantifies deferred maintenance backlog, and the escalation of the information to the proper management level, including the CO.
- ▶ Methods for capturing and recovering costs of services provided to non-state and auxiliary organizations.
- ▶ The campus strategic energy resource plan and its correlation to systemwide goals for energy conservation and sustainability.
- ▶ Compliance with specific energy conservation policies.
- ▶ Devices and technology used to control physical access to campus facilities.

OBSERVATIONS, RECOMMENDATIONS, AND CAMPUS RESPONSES

MAINTENANCE PROGRAM AND COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM

Maintenance and review of the computerized maintenance management system (CMMS) work order process needed improvement.

We found that:

- ▶ The work order backlog had not been adequately reviewed and was significantly aged. Out of a population of 2,211 open work orders, 674 were more than 120 days old, and 131 of the aged work orders pre-dated January 2011.
- ▶ Of the 674 open work orders aged more than 120 days, 326 appeared to be completed but had not been closed in the CMMS.

Executive Order (EO) 847, *Policy Statement on Facility Maintenance*, dated January 10, 2003, states that the campus shall provide a CMMS to track routine, scheduled, and deferred maintenance work, and that this system should be capable of reasonably accounting for the total allocated resources.

Government Code §13403 states that internal accounting and administrative controls are the methods through which state entity heads can give reasonable assurance that measures to safeguard assets, check the accuracy and reliability of accounting data, promote operational efficiency, and encourage adherence to prescribed managerial policies are being followed.

State Administrative Manual (SAM) §20050 states that the elements of a satisfactory system of internal accounting and administrative controls shall include an established system of practices to be followed in performance of duties and a system of authorization and recordkeeping procedures adequate to provide effective accounting control.

The associate vice president (AVP) of facilities development and operations (FD&O) stated that FD&O conducted a large-scale cleanup of outstanding open work orders in 2009, but since that time, consistent reviews and oversight of aged open work orders had not been performed. He also stated that the lack of attention in this area was due to recent turnover of staff and management.

Failure to adequately maintain and review work orders increases the risk of inaccurate reporting and completion of routine, scheduled, and deferred maintenance work.

Recommendation 1

We recommend that the campus ensure that:

- a. The work order backlog is adequately reviewed.
- b. Maintenance staff properly closes work orders.

Campus Response

We concur. We will strengthen the procedure to:

- a. Adequately review the work order backlog.
- b. Ensure the proper closing of work orders by maintenance staff.

Compliance actions will be completed by end of December 2012.

UTILITIES MANAGEMENT

Monthly energy consumption reports were not reviewed and approved before they were submitted to the Office of the Chancellor (CO).

EO 987, *Policy Statement on Energy Conservation, Sustainable Building Practices and Physical Plant Management*, dated August 2, 2006, states that the California State University will monitor energy usage monthly on all campuses and the CO and will prepare a systemwide annual report on energy utilization. The CO will maintain a systemwide energy database in which monthly campus data will be compiled to produce systemwide energy reporting. Campuses will provide the CO the necessary energy and utility data for the systemwide database in a timely manner.

The AVP of FD&O stated that the monthly energy consumption reports were reviewed after submission of the reports to the CO in order to meet reporting timelines.

Failure to properly review and approve utility reports increases the risk of inaccurate energy reporting.

Recommendation 2

We recommend that the campus review and approve the monthly energy consumption reports before submitting them to the CO.

Campus Response

We concur. We will strengthen the procedure to review and approve the monthly energy consumption reports before submitting them to the CO. Compliance actions will be completed by the end of December 2012.

PHYSICAL AND LOGICAL SECURITY

KEYS ISSUANCE

The campus did not adequately authorize and monitor individuals with key access to campus buildings.

We found that the campus had not conducted an inventory of keys in the past eight years. In addition, we reviewed records for ten keys issued to employees and found that:

- ▶ In two instances, appropriate and complete authorization forms were not on file.
- ▶ In four instances, issuance dates in the CMMS were incorrect.
- ▶ In eight instances, a checkout clearance form was not completed for the return of keys at the employee's departure.

SAM §20003 states that the elements of a satisfactory system of internal administrative control include, but are not limited to, a plan that limits access to assets to authorized personnel who require these assets in the performance of their assigned duties.

Integrated California State University Administrative Manual (ICSUAM) §8080, *Physical Security*, dated April 19, 2010, states that each campus must identify physical areas that must be protected from unauthorized physical access while ensuring that authorized users have appropriate access.

San José State University *Lockshop/Key Control Process*, dated January 1, 2002, states that the appropriate key request form must be completed for the type of key needed with proper authorization obtained on each form. When an employee leaves university employment, the individual must check out through the key control center with the key control center employee signing the checkout form indicating proper recovery of keys. In addition, annually, a printout will be sent to each dean or department head to assist in maintaining accurate inventory of keys.

The AVP of FD&O stated that the conversion from a prior disk operating system to the current CMMS led to some input data errors. He also stated that although a campuswide key inventory/audit had not been performed, certain areas, such as custodial staff, grounds, some skilled trades units, aviation, kinesiology, and university police, were audited and keys had been accounted for. In addition, he stated that the primary reason for the failure to properly authorize and monitor the use of keys was a lack of strict adherence to clear policies and procedures.

Failure to properly authorize and monitor the custody of keys and/or access devices increases the risk that keys will be unaccounted for or misused.

Recommendation 3

We recommend that the campus:

- a. Perform an inventory of keys on a periodic basis.
- b. Ensure that appropriate and complete authorization forms are on file for individuals with key access to campus buildings.
- c. Ensure that the CMMS contains correct key issuance dates.

- d. Ensure that checkout clearance forms are completed for the return of keys at an employee's departure.

Campus Response

We concur. We will strengthen the procedures and implement the compliance actions by the end of December 2012 to:

- a. Perform an inventory of keys on a periodic basis.
- b. Ensure that appropriate and complete authorization forms are on file for individuals with key access to campus buildings.
- c. Ensure that the CMMS contains correct key issuance dates.
- d. Ensure that checkout clearance forms are completed for the return of keys at an employee's departure.

WORK ORDER SYSTEM ACCESS

The campus had not developed and documented formal policies and procedures for requesting, authorizing, granting, monitoring, or rescinding access to the CMMS.

We reviewed ten CMMS users, and we found that none of the ten had sufficient proof of authorization for access to the system.

ICSUAM §8060.0, *Access Control*, dated April 19, 2010, states that campuses must have a documented process for provisioning approved additions, changes, and terminations of access rights, and for reviewing access of existing account holders. It further states that the access review must be conducted at least annually and that the review must be documented.

The AVP of FD&O stated that although the CMMS administrator actively performed the tasks required, the campus was unaware of the requirement to document and maintain a written process for granting access. He also stated that the department was maintaining a log of CMMS access, which recorded the granting, modification, and deletion of employee access through June 30, 2010; however, this activity was discontinued because the administrator was unaware of the importance or necessity of keeping this information.

Failure to adequately control user access to systems increases campus exposure to loss from inappropriate acts.

Recommendation 4

We recommend that the campus develop and document formal policies and procedures for requesting, authorizing, granting, monitoring, and rescinding access to the CMMS.

Campus Response

We concur. We will strengthen the procedures and implement the compliance actions by the end of December 2012 to develop and document formal policies and procedures for requesting, authorizing, granting, monitoring, and rescinding access to the CMMS.

APPENDIX A: PERSONNEL CONTACTED

<u>Name</u>	<u>Title</u>
Mohammad Qayoumi	President
Adam Bayer	Director, Utilities, Maintenance and Operations
Shawn Bibb	Vice President, Administration and Finance
Christopher Brown	Associate Vice President, Facilities Development and Operations
David Buchmann	Lead Locksmith
Catherine Chen	Financial Budget Analyst
Michelle Chen	Budget Analyst
Donna Duval	Customer Service and Logistics Lead
Marna Genes	Budget Planning and Financial Management Director
John Gorvad	Auto Shop Supervisor
Jared Isaacson	Energy Analyst
Josee Larochelle	Associate Vice President, Finance
Betty Luna	Director, Facility Services
Chris Nordby	Associate Director, Utility Operations
Ninh Pham-Hi	Director, Internal Control
Jose Rios	Work Control Lead/Technology Systems Specialist
John Skyberg	Associate Director, Maintenance Operations and Repairs
Cynthia Soto	Administrative Services Coordinator
Elena Stoian	Business Services Lead
May Xie	Projects Account Analyst



**SAN JOSÉ STATE
UNIVERSITY**

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September 26, 2012

Mr. Larry Mandel
University Auditor
The California State University
401 Golden Shore, 4th Floor
Long Beach, CA 90802

RECEIVED
UNIVERSITY AUDITOR

SEP 27 2012

THE CALIFORNIA STATE
UNIVERSITY

Re: Campus Response to **Facilities Management (#12-43) audit report at San José State University.**

Enclosed is San José State University's response to the Facilities Management (#12-43) audit report. The campus is committed to addressing the issues identified in this audit report.

Please let me know if I can provide you with additional information.

Shawn Bibb
Vice President for Administration and Finance

Enclosure

cc: Mo Qayoumi, President
Ninh Pham-Hi, Director, Internal Control

FACILITIES MANAGEMENT
SAN JOSÉ STATE UNIVERSITY
Audit Report 12-43

MAINTENANCE PROGRAM AND COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM

Recommendation 1

We recommend that the campus ensure that:

- a. The work order backlog is adequately reviewed.
- b. Maintenance staff properly closes work orders.

Campus Response

We concur. We will strengthen the procedure to:

- a. Adequately review the work order backlog.
- b. Ensure the proper closing of work orders by maintenance staff.

Compliance actions will be completed by the end of December 2012.

UTILITIES MANAGEMENT

Recommendation 2

We recommend that the campus review and approve the monthly energy consumption reports before submitting them to the CO.

Campus Response

We concur. We will strengthen the procedure to review and approve the monthly energy consumption reports before submitting them to the CO. Compliance actions will be completed by the end of December 2012.

PHYSICAL AND LOGICAL SECURITY

KEYS ISSUANCE

Recommendation 3

We recommend that the campus:

- a. Perform an inventory of keys on a periodic basis.
- b. Ensure that appropriate and complete authorization forms are on file for individuals with key access to campus buildings.
- c. Ensure that the CMMS contains correct key issuance dates.
- d. Ensure that checkout clearance forms are completed for the return of keys at an employee's departure.

Campus Response

We concur. We will strengthen the procedures and implement the compliance actions by the end of December 2012 to:

- a. Perform an inventory of keys on a periodic basis.
- b. Ensure that appropriate and complete authorization forms are on file for individuals with key access to campus buildings.
- c. Ensure that the CMMS contains correct key issuance dates.
- d. Ensure that checkout clearance forms are completed for the return of keys at an employee's departure.

WORK ORDER SYSTEM ACCESS

Recommendation 4

We recommend that the campus develop and document formal policies and procedures for requesting, authorizing, granting, monitoring, and rescinding access to the CMMS.

Campus Response

We concur. We will strengthen the procedures and implement the compliance actions by the end of December 2012 to develop and document formal policies and procedures for requesting, authorizing, granting, monitoring, and rescinding access to the CMMS.

THE CALIFORNIA STATE UNIVERSITY
OFFICE OF THE CHANCELLOR

BAKERSFIELD

CHANNEL ISLANDS

October 5, 2012

CHICO

DOMINGUEZ HILLS

MEMORANDUM

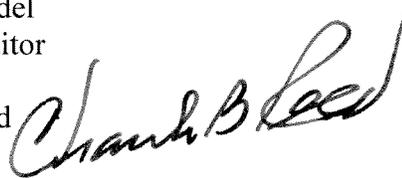
EAST BAY

TO: Mr. Larry Mandel
University Auditor

FRESNO

FULLERTON

FROM: Charles B. Reed
Chancellor



HUMBOLDT

SUBJECT: Draft Final Report 12-43 on *Facilities Management*,
San José State University

LONG BEACH

LOS ANGELES

MARITIME ACADEMY

In response to your memorandum of October 5, 2012, I accept the response as submitted with the draft final report on *Facilities Management*, San José State University.

MONTEREY BAY

NORTHRIDGE

CBR/amd

POMONA

SACRAMENTO

SAN BERNARDINO

SAN DIEGO

SAN FRANCISCO

SAN JOSÉ

SAN LUIS OBISPO

SAN MARCOS

SONOMA

STANISLAUS