

OPERATION AND MAINTENANCE OF PLANT

SYSTEMWIDE REPORT

Report Number 99-35

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ABBREVIATIONS

BA	Business Affairs – Office of the Chancellor
BP	Budget Planning – Office of the Chancellor
CO	Chancellor's Office
CPDC	Capital Planning, Design & Construction (previously PPD)
CSU	California State University
FRRM	Facilities Renewal Resource Model
HVAC	Heating, Ventilation and Air Conditioning
MMS	Maintenance Management System
OMP	Operation and Maintenance of Plant
PM	Preventive Maintenance
PPCG	Pacific Partners Consulting Group
RA	Resolution of the Committee on Audit – CSU Board of Trustees
SAM	State Administrative Manual
SUAM	State University Administrative Manual
UC	University of California

INTRODUCTION

PURPOSE

Our overall audit objective was to ascertain the effectiveness of policies and procedures related to the administration of the Operation and Maintenance of Plant (OMP) and to ensure that controls addressing current and future facility requirements in place.

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

- ▶ the administration and management of the OMP program and facilities planning functions provide clear lines of organizational authority and responsibility;
- ▶ budgeting procedures adequately address OMP funding, ensure that one-time funding allocations are used for their designated purpose, and include procedures to monitor budget versus actual expenses;
- ▶ a comprehensive program is in place that identifies all maintenance/repair requirements including preventive maintenance, facility repairs, deferred maintenance, custodial services, and grounds keeping;
- ▶ the maintenance/repair program includes productivity/performance standards, quality control and employee training to ensure that quality work is performed effectively and efficiently;
- ▶ administrative controls over the maintenance/repair program are adequate, and the maintenance management system includes work order scheduling, costing and control; backlog reports; and productivity tools;
- ▶ non-maintenance work is adequately controlled and fully charged back to the customer in accordance with CSU directives;
- ▶ all non-general fund operations and chargeable costs have been identified in accordance with CSU directives and are fully charged back to the operations;
- ▶ chargebacks are adequately controlled and properly valued;
- ▶ maintenance materials, supplies, and equipment are adequately controlled and properly accounted for;
- ▶ a utilities management program has been established in accordance with CSU policy; and
- ▶ the campus physical master plan is maintained in accordance with CSU policy.

SCOPE AND METHODOLOGY

This review emphasized but was not limited to compliance with state laws, Board of Trustee policies, and Office of the Chancellor and campus policies, letters and directives. June 1998 to date was the primary period of review.

Our primary focus involved the internal administrative and accounting controls over the operation and maintenance of plant functions. Specifically, we reviewed and tested:

- ▶ budget allocation and monitoring procedures;
- ▶ identification of maintenance/repair requirements;
- ▶ work order processing and completion of preventive maintenance tasks;
- ▶ procedures for controlling custodial services and grounds keeping;
- ▶ procedures for controlling and processing chargebacks for non-maintenance work and costs associated with non-general fund operations;
- ▶ procedures for controlling and accounting for maintenance materials, supplies and equipment;
- ▶ implementation of a utilities management program; and
- ▶ maintenance of the campus physical master plan.

During the course of the audit, we visited ten campuses: Dominguez Hills, Fullerton, Hayward, Humboldt, Long Beach, Los Angeles, Pomona, Sacramento, San Diego and Stanislaus. We interviewed campus personnel and audited procedures in effect at that time.

BACKGROUND

In response to the systemwide risk assessment conducted during 1996, which included input from officers representing the Chancellor's Office and each CSU campus, the Board of Trustees directed this review of Operation and Maintenance of Plant at its January 1999 meeting.

The Legislative Analyst's Report on the 1979/80 budget addressed the need to protect the substantial public investment represented by 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 and concluded that the concept of preventive maintenance was too narrow in scope to accommodate the total maintenance

needs of the CSU. Consequently, a concept of “Planned/Programmed Maintenance” was proposed, incorporating preventive maintenance as well as systematic planning and programming. The CSU Executive Council reviewed the task force report and approved the concept in March 1981.

In April 1981, Executive Order No. 343, *Establishment of Planned/Programmed Maintenance*, was issued. It stated that “effective immediately, each campus shall initiate a Planned/Programmed Maintenance Management system that will provide systematic maintenance of State owned campus facilities, program future special maintenance and repair project requirements, identify deferred maintenance needs, and schedule replacement of Group I equipment.”

In 1983, the Office of the University Auditor reviewed *Plant Operations* at eight campuses and issued a systemwide report. The Board of Trustees subsequently accepted the systemwide report and addressed nine implementing actions in Trustees’ resolution RA 9-83-057. These actions were adopted in CSU directive BA 84-25, *Implementation of Trustees’ Resolution RA 9-83-057 (Plant Operations)*, dated July 25, 1984.

In 1999, the CSU initiated the Facilities Renewal Cost Model Project (FRRM) with the long-term objective of securing adequate funding for deferred maintenance and renewal needs for the CSU physical plants. A small advisory committee made up of seven physical plant directors and Chancellor’s Office staff examined the available options of determining and presenting relevant cost data, and proposed the FRRM project described below:

The FRRM predicts annual campus renewal costs and generates a current deferred maintenance list based upon an updated profile of all campus facilities and identified infrastructure systems. This model is appealing to budget staff, as renewal costs are predictable and logically derived projections can be made. Additionally, the University of California (UC) (Office of the President) adopted this model for its campuses. It is prudent to be in sync with the UC system in approaching the legislature for funding support for CSU physical plants. The project was approved and funded by the CSU directors of physical plant and the assistant vice chancellor of Capital Planning, Design and Construction CPDC.

The project began in October 1999 and is scheduled to be completed by June 30, 2000. The Pacific Partners Consulting Group (PPCG) was chosen to perform the scope of work, as this firm completed the same task for the UC system (which included extensive software development) and the model was essentially ready for use once customized for the CSU.

The project was divided into five phases. The first two phases have been completed. Phase I provided an analysis of the added life cycle costs of having shortened life cycles (lower initial construction costs) for specific subsystems. The analysis provided life cycle cost estimates for alternative approaches to choosing subsystems. These subsystems included, but were not limited to, building skin, roof, HVAC, lighting, electrical and interior finishes.

Phase II included the development of a framework of common definitions, building and subsystem categories, life cycles and costs for the twenty-three campuses that would form the specifications for implementing the FRRM. This phase involved the oversight of the advisory committee referenced above. The same 'seven' campuses made up the initial subset where the model was implemented in Phase III due to their closeness to the project from its start.

PPCG implemented the FRRM at seven campuses during Phase III, providing each with the model, data, and comprehensive reports (including draft reports, deferred maintenance estimate with cost, a user's manual and a final report). Phase IV is a replication of Phase III at the remaining sixteen campuses. To-date, Phase III is nearing completion and Phase IV has been initiated. A consolidated systemwide model and report will be developed during the final Phase V.

Upon completion of this project, the CSU will have a tool to generate predictive renewal and deferred maintenance costs for each campus based upon the life cycles of major subsystems for all facilities and defined infrastructures. Maintaining the model is not considered labor intensive, and it provides cost data within an acceptable margin of error.

Throughout this report, we will refer to the program as operation and maintenance of plant (OMP). The titles of the departments assigned responsibility for managing CSU campus operation and maintenance of plant include, among others, physical plant and plant operations.

OPINION

We visited the ten campuses from March 8, 1999, through December 17, 1999, and our opinion is based primarily upon our observations at those campuses.

We found that the ten campuses were in general compliance with applicable State of California, CSU and individual campus directives. Campus specific findings and recommendations have been discussed and reported individually. In our opinion, the administration and management of the OMP programs provided clear lines of organizational responsibility, the automated work order systems were generally adequate to manage and account for the maintenance/repair program, and budget-monitoring procedures were effective. However, additional attention is required to ensure the program is comprehensive and effectively managed. Specifically, campus preventive maintenance programs were not fully functional; oversight of the work orders needed improvement, chargeback procedures did not assure full reimbursement; and controls over maintenance materials, supplies and equipment were inadequate. The findings presented below were in varying degrees of compliance at each of the ten campuses visited and thus took on systemwide implications. Areas needing improvement are referenced in the executive summary below.

EXECUTIVE SUMMARY

The purpose of this section is to provide management with an overview of conditions requiring their 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 MANAGEMENT PROGRAM [7]

PREVENTIVE MAINTENANCE [7]

Implementation and administrative controls concerning the preventive maintenance (PM) program at nine of the ten campuses visited were inadequate. A fully operational preventive maintenance program, with comprehensive work tasks and accurate administrative reporting, ensures effective and efficient PM scheduling and coverage for campus equipment and facilities.

WORK ORDER PROGRAM ADMINISTRATION [8]

Oversight of the work order program was inadequate at eight of the ten campuses visited. Maintaining adequate oversight ensures that maintenance and repairs are performed timely, which reduces the risk of system breakdowns.

PHYSICAL AUDITS AND GROUP I EQUIPMENT [9]

Not all campuses had implemented annual physical audits of facilities or established lists of Group 1 equipment programmed for replacement as part of their planned/programmed maintenance program. Implementing annual physical audits group 1 equipment lists mitigates the risk that all maintenance/repair requirements will not be identified and system breakdowns and deterioration of facilities will occur.

QUALITY CONTROL [9]

A comprehensive quality control program had not been implemented at seven of the ten campuses visited. Implementation of a comprehensive quality control program will mitigate the risk of system breakdowns and deterioration of facilities and grounds and help ensure that work is performed in accordance with established standards.

CHARGEBACKS AND NON-MAINTENANCE WORK [10]

CHARGEBACK CONTROLS [10]

Chargeback procedures for non-maintenance work were inadequate at each of the ten campuses visited. Improving chargeback controls increases the likelihood for timely and complete reimbursement to facilities services for services rendered.

NON-GENERAL FUND OPERATIONS [12]

At the majority of the campuses visited, services and utilities provided to non-general fund activities were not always charged back and/or charged back in a timely manner. Prompt billing of all services provided to non-general fund activities increases the likelihood for complete and timely reimbursement.

MAINTENANCE MATERIALS AND EQUIPMENT [13]

MAINTENANCE MATERIALS AND SUPPLIES INVENTORY [13]

Maintenance materials and supplies inventory controls and procedures were not adequate at eight of the ten campuses visited. Strengthening inventory controls decreases the risk of lost or stolen assets and could result in lower overall inventory costs.

SMALL HAND TOOLS AND EQUIPMENT [14]

Accountability over small hand tools and equipment was inadequate at five of the ten campuses visited. Proper accountability decreases the risk of lost or stolen assets.

UTILITIES MANAGEMENT [15]

Campus-wide five-year energy conservation and utilities management plans were not being maintained at half the campuses visited. Maintenance of such plans may result in increased energy efficiency.

PHYSICAL MASTER PLAN [16]

A thorough reevaluation of the campus physical master plan had not occurred within the last three years at five of the ten campuses. Timely reviews of the campus physical master plan will ensure that facilities meet current and future needs.

OBSERVATIONS, RECOMMENDATIONS, AND MANAGEMENT RESPONSES

MAINTENANCE MANAGEMENT PROGRAM

PREVENTIVE MAINTENANCE

Implementation and administrative controls concerning the preventive maintenance (PM) program at nine of the ten campuses visited were inadequate.

We found, in varying degrees, the following types of weaknesses in the preventive maintenance program at the campuses:

- ▶ PM tasks had not been entered into the PM system and/or verified for all tasks;
- ▶ Existing controls did not ensure that only valid PM tasks were included in the PM program;
- ▶ PM tasks were not completed or not completed in a timely manner; and
- ▶ PM administrative reporting was not adequate for scheduling and backlogs.

Executive Order #343, *Establishment of Planned/Programmed Maintenance*, dated April 29, 1988, states that each management system shall incorporate a current, comprehensive schedule for all maintenance work to be accomplished in a timely manner.

SAM §20003 states that a satisfactory system of internal administrative control shall include an established system of practices to be followed in the performance of duties and functions as well as an effective system of internal review.

In the majority of instances, management stated that conversion of PM data to a new maintenance management system was not complete or accurate and had caused administrative reporting and scheduling problems. Management also cited lack of staff resources.

Not implementing a preventive maintenance program timely increases the risk of ineffective and inefficient preventive maintenance scheduling and coverage for campus equipment and facilities that may result in system breakdowns.

Recommendation 1

We recommend that the Chancellor's Office remind all campuses of the necessity to have a comprehensive preventive maintenance program that ensures all tasks are accomplished in a timely manner.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order consolidating policy regarding the requirement for a comprehensive planned maintenance and capital renewal program that ensures all tasks are accomplished in a timely manner.

WORK ORDER PROGRAM ADMINISTRATION

Oversight of the work order program was inadequate at eight of the ten campuses visited.

Seven of the campuses had significant backlogs of open work orders, including backlogs that were more than four months old. We also found instances where the work had actually been performed, but the work order had not been closed out in the automated work order system. In addition, two campuses did not have adequate reporting for open work orders to facilitate the oversight process.

Executive Order #343, *Establishment of Planned/Programmed Maintenance*, dated April 29, 1988, states that each management system shall incorporate a current, comprehensive schedule for all maintenance work to be accomplished in a timely manner.

SAM §20003 states that a satisfactory system of internal administrative control shall include an established system of practices to be followed in the performance of duties and functions as well as an effective system of internal review.

Management stated that work control staffing levels and the conversion to new maintenance management systems had affected work order review and closure.

Inadequate oversight of work order programs increases the risk that maintenance and repairs will not be performed in a timely manner and system breakdowns will occur.

Recommendation 2

We recommend that the Chancellor's Office remind all campuses of the importance of completing all maintenance work in a timely manner and consider revising Executive Order #343 to incorporate minimum guidelines for effective oversight over the campus work control program.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order requiring a computerized work order system to carry out all identified maintenance tasks in a timely manner.

PHYSICAL AUDITS AND GROUP I EQUIPMENT

Not all campuses had implemented annual physical audits of facilities or established lists of Group 1 equipment programmed for replacement as part of their planned/programmed maintenance program.

Four of the ten campuses visited had not conducted annual physical audits of each campus facility. In addition, three campuses had not developed a listing of Group I equipment programmed for replacement.

Executive Order #343, *Establishment of Planned/Programmed Maintenance*, dated April 29, 1988, states, in part, that each maintenance management system shall incorporate an annual physical audit of each facility to identify maintenance/repair program requirements, and a current annual listing of Group I equipment programmed for replacement.

The cause for not implementing annual audits varied among the campuses visited. Some campus management stated that annual physical audits of each facility were either: not cost effective; performed informally; included in an annual maintenance evaluation process; or redundant to preparation of the five-year special repair list. The cause for not implementing listings of Group 1 equipment also varied by campus. Some campus management stated that they were not aware of the requirement for a listing of Group I equipment while others attributed the problem system conversion problems.

Not implementing annual physical audits and Group 1 equipment lists increases the risk that all maintenance/repair requirements will not be identified and system breakdowns and deterioration of facilities will occur.

Recommendation 3

We recommend that the Chancellor's Office ensure that all campuses include annual audits and listings of Group 1 equipment in their overall planned/programmed maintenance program or revise Executive Order #343 to reflect the current operating environment.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order requiring a bi-annual audit and listing of Group 1 equipment in the campuses' planned maintenance program.

QUALITY CONTROL

A comprehensive quality control program had not been implemented at seven of the ten campuses visited.

We found, in varying degrees, that the campuses visited had not fully implemented a comprehensive quality control program. Examples of incomplete implementation included: routine documented quality control checks of service work orders; and preventive maintenance, and/or custodial and grounds keeping services were not performed.

SAM §20003 states that a satisfactory system of internal administrative control shall include an established system of practices to be followed in performance of duties and functions as well as an effective system of internal review.

Executive Order #343, *Establishment of Planned/Programmed Maintenance*, dated April 29, 1988, requires that the maintenance management program include a procedure that will provide management with a means to measure the effectiveness of planned/programmed maintenance.

At most of the campuses visited, management stated that many informal reviews occurred but were not always documented.

Without implementation of comprehensive quality control procedures, there is an increased risk that work will not be performed in accordance with established procedures and system breakdowns and deterioration of facilities and grounds will occur.

Recommendation 4

We recommend that the Chancellor's Office revise Executive Order #343 to include minimum guidelines for a comprehensive formalized quality control program to ensure compliance with physical plant work standards.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order requiring a systematic program to review the quality of work performed to assure compliance with an approved work standard.

CHARGEBACKS AND NON-MAINTENANCE WORK

CHARGEBACK CONTROLS

Chargeback procedures for non-maintenance work were inadequate, at each of the ten campuses visited. We noted that:

- ▶ supporting documentation was not available to substantiate the overhead rates being used at ten campuses;

- ▶ overhead was not being charged as a percentage of total costs or on all chargebacks for three campuses;
- ▶ overhead rates had not been reviewed in several years at most campuses. Overhead rates varied from 5% to 25%;
- ▶ labor rates used to value chargebacks were not current at six campuses;
- ▶ benefits were not being properly charged to non-general fund activities at eight campuses;
- ▶ procedures did not ensure the accuracy of chargebacks at five campuses; and
- ▶ verification procedures to ensure that plant operations receives credit were not in place at three campuses.

CSU directive BA 84-25, *Implementation of Trustees' Resolution RA 9-83-057*, dated July 25, 1984, states that each campus will develop a chargeback system, and campus policy and procedures must ensure the return of all costs to the plant operations budget. Additionally, the policy should include reimbursement for overhead or indirect costs. These latter costs include reimbursements for administrative processing, estimating, supervision, equipment, vehicles, etc., and would normally be calculated and added as a percentage of total costs.

CSU systemwide directive BP 86-69, *Staff Benefits – Billing Rates for Services of General Fund Employees*, dated September 29, 1986, states that billings for services of general fund employees should include staff benefit-type charges in accordance with SAM §8740, and campuses will be responsible for the derivation of benefit rates applicable to their campus. Campuses will also be responsible for complying with SAM §8740.

SAM §8752 indicates that departments must recover full costs whenever goods or services are provided to others.

Some campus management stated, that chargeback rates and policies and practices have not been reviewed for a long time. Others stated that the chargeback policy was political in nature, and the overhead rate was arbitrary.

Unsatisfactory controls over chargebacks increase the risk of inaccurate and incomplete reimbursement to facilities services for services rendered and reduce funds available for campus maintenance and repairs.

Recommendation 5

We recommend that the Chancellor's Office revise and consolidate existing policies regarding chargebacks and cost allocations to incorporate minimum guidelines for effective controls over chargebacks including specific guidance in the development of overhead rates.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order regarding the allocation of costs among auxiliary enterprise activities and the reimbursement of the general fund for facilities, goods and services provided by the general fund.

NON-GENERAL FUND OPERATIONS

At the majority of campuses visited, services and utilities provided to non-general fund activities were not always charged back and/or charged back in a timely manner.

We noted the following deficiencies at seven of the campuses visited:

- ▶ Services were either not fully reimbursed or procedures were not in effect to ensure that non-general fund activities were fully charged back at six campuses.
- ▶ Three campuses were not receiving reimbursement for utilities from non-general fund activities or utility chargebacks were either inaccurate or not done.

CSU systemwide directive BA 84-25, *Implementation of Trustees Resolution RA 9-83-057*, dated July 25, 1984, states that each campus will develop a chargeback system, and campus policy and procedures must ensure the return of all costs to the plant operations budget.

Executive Order #538, *Policy Statement on Energy Conservation and Utilities Management for the CSU and Energy Consumption Reduction Goal for 1992/93 Compared to 1986/87*, dated February 1, 1989, states that: all CSU campuses will implement a utilities chargeback system to recover the cost of utilities provided to self-supporting and external organizations.

CSU systemwide directive BA 83-30, *Policy on Chargeable Services to Self-Supporting Operations*, dated December 28, 1983, states that funds provided from the general fund may be used to provide support for ancillary operations that are not funded through the general fund if there is recovery of the cost of such support.

SAM §8752 states that state policy requires departments to recover full costs whenever goods or services are provided to others.

SAM §8776.3 requires invoices to be prepared as soon as possible after recognition of a claim.

Management stated, for the most part, that chargeback rates, policies and practices have not been reviewed for a long time. At some of the campuses, management attributed the chargeback policy to previous department management.

Failure to promptly invoice all non-general fund activities for services rendered by plant operations and utilities reduces the likelihood for complete and timely reimbursement and the amount of working capital available for maintenance and repairs.

Recommendation 6

We recommend that the Chancellor's Office revise and consolidate existing policies regarding chargebacks and cost allocations to require timely and accurate reimbursement from all non-general fund activities for utilities and services rendered by plant.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order regarding the allocation of costs among auxiliary enterprise activities and the reimbursement of the general fund for facilities, goods and services provided by the general fund.

MAINTENANCE MATERIALS AND EQUIPMENT

MAINTENANCE MATERIALS AND SUPPLIES INVENTORY

Maintenance materials and supplies inventory controls and procedures were not adequate at eight of the ten campuses visited.

Our review disclosed the following deficiencies:

- ▶ physical inventories of maintenance and materials and supplies, including reconciliation to perpetual records, were not being performed at six campuses;
- ▶ two campuses did not have a comprehensive written or computerized inventory record;
- ▶ proper segregation of duties was not maintained over maintenance materials and/or warehouse access was not properly controlled at seven campuses; and
- ▶ seven campuses had not developed formalized materials management policies and procedures.

SAM §3535 requires state agencies to maintain unit stock records and conduct physical inventories if they operate warehouses with gross floor space exceeding 4,000 sq. ft., average annual inventory investment in expendable goods exceeding \$50,000, annual issues of expendable goods exceeding

\$100,000 or expendable goods inventory consisting of 400 or more stock items. In addition, each state agency must develop internal policies and procedures for effective materials management within each organizational unit that maintains continuing inventories of expendable goods.

CSU systemwide directive BA 84-25, *Implementation of Trustees' Resolution RA 9-83-057*, dated July 25, 1984, states that internal controls over the purchase, storage and use of plant operations department materials must be developed and implemented at the campuses.

SAM §8080 requires an adequate separation of duties so that no one person orders and receives supplies, maintains control over the inventory and issues materials and equipment.

Management stated, for the most part, that staffing issues affected inventory counts and separation of duties. At a few campuses, management cited problems with the conversion to a new maintenance management system or a lack of warehouse space availability.

Inadequate inventory controls increase the risk of lost or stolen assets and lead to higher overall inventory costs.

Recommendation 7

We recommend that the Chancellor's Office remind the campuses of the importance of maintaining internal controls over the purchase, storage and use of plant operations department materials, including formalized policies and procedures for effective materials management.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order requiring written policies and procedures for effective materials management with resultant written records demonstrating internal controls over the purchase, storage and use of plant operations department materials.

SMALL HAND TOOLS AND EQUIPMENT

Accountability over small hand tools and equipment was inadequate at five of the ten campuses visited.

SAM §20003 states that a satisfactory system of internal accounting and administrative control shall include a system of recordkeeping procedures adequate to provide effective accounting control over assets, liabilities, revenues, and expenditures.

At the time of our review, we found there was no systemwide directive that discussed appropriate accountability procedures for small hand tools and equipment.

At some of the campuses with accountability issues, management stated that responsibility had been informally assigned to the trade shop supervisors, and uniform accountability standards have not been

established. At one campus, management stated that a system to account for hand tools and equipment had been developed but not implemented due to management changes.

Inadequate accountability over small hand tools and equipment increases the risk of lost or stolen state property.

Recommendation 8

We recommend that the Chancellor's Office remind the campuses of the importance of maintaining accountability over small hand tools and equipment.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order requiring written policies and procedures for effective materials management with resultant written records demonstrating internal controls over the purchase, storage and use of plant operations department materials.

UTILITIES MANAGEMENT

Campus-wide five-year energy conservation and utilities management plans were not being maintained at half the campuses visited.

Executive Order #538, *Policy Statement on Energy Conservation and Utilities Management for the CSU and Energy Consumption Reduction Goal for 1992/93 Compared to 1986/87*, dated February 1, 1989, states that each CSU campus will develop, implement and update a campus-wide five-year energy conservation and utilities management plan. This executive order also addressed specific consumption goals, which were to be accomplished by FY 1992-93.

At campuses not in compliance with EO 538, management stated, for the most part, that a formalized campus-wide five-year energy conservation and utilities management plan had not been maintained due to staffing issues.

Failure to maintain a campus-wide five-year energy conservation and utilities management plan may result in decreased energy efficiency and increased energy costs.

Recommendation 9

We recommend that the Chancellor's Office clarify Executive Order #538 with respect to the need for ongoing maintenance of a campus-wide five-year energy conservation and utilities management plan.

Management's Response

We concur and will issue by September 1, 2000, a revised Executive Order with respect to the need for ongoing maintenance of a campus-wide rolling five-year energy conservation and utilities management plan.

PHYSICAL MASTER PLAN

A thorough reevaluation of the campus physical master plan had not occurred within the last three years at five of the ten campuses visited.

PPD SUAM Section II §9009 states that periodically, but not less often than every three years, each campus shall accomplish a thorough reevaluation of all parts of the physical master plan and shall submit a written summary report of the reevaluation to Capital Planning, Design and Construction (CPDC).

At the campuses where reevaluation had not occurred, management stated that they had never been requested to do this and, by practice, this has not been enforced by CPDC. Management further stated that since the campus was almost at “build out status” not much was being done to change the physical master plan, the physical is reviewed each year as part of the campus five-year capital plan, and the reevaluation was not performed within the three-year requirement due to the time and money required to complete such a review.

Failure to complete timely reviews of the campus physical master plan increases the risk that facilities will not meet current and future needs.

Recommendation 10

We recommend that the Chancellor’s Office review and clarify PPD SUAM Section II §9009 with respect to the need for a thorough reevaluation of the campus physical master plan on a three-year cycle including reports to CPDC.

Management’s Response

We concur and will issue a revised CPDC SUAM Section II 9009 by September 1, 2000, to clarify when a thorough re-evaluation of the campus physical master plan is to occur.

APPENDIX A: PERSONNEL CONTACTED

CHANCELLOR'S OFFICE

Patrick Drohan	Assistant Vice Chancellor, Capital Planning, Design & Construction
Deborah Hill	Energy Program Manager, Capital Planning, Design & Construction
Elvyra San Juan	Chief of Facilities Planning, Capital Planning, Design & Construction
Brad Wells	Assistant Vice Chancellor, Financial Services
Richard West	Executive Vice Chancellor and Chief Financial Officer

CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS

Dr. James Lyons, Sr.	President
Margaret Coda-Messerle	Director, Facilities Planning
Domenic Del Re	Director, Physical Plant (Interim)
Faye Edwards	Administration Services Supervisor
Janice Ely	Director, Internal Audit
Alvin Hall	Custodial Manager
Delores Hendricks	Department Secretary
Kathy Hughes	Director, Business Process Management
Ron Lamb	Manager of Building Trades
Estella Leonard	Work Control Clerk
Richard Ontiveros	Grounds Manager
George Pardon	Vice President, Administration and Finance
Randy Sharp	Director, Physical Plant
Steve Slimp	Associate Director, Physical Plant
Ezekial "Bo" Thomas	Locksmith II
Dennis Weight	Planner/Estimator, Scheduler Manager
Tom Wood	Work Control Coordinator

CALIFORNIA STATE UNIVERSITY, FULLERTON

Dr. Milton Gordon	President
Jay Bond	Associate Vice President, Facilities Management
Welson Badal	Systems Analyst
Jim Corbett	Manager, Central Plant/Utilities
Brian Christie	Manager, Building Maintenance
Steven Dugas	Manager, Landscape Services
Linda Erickson	Director, Budget & Revenue Management
Flora Farzad	Accounting Officer
Holly Hall	Director, Logistical Services
Terry Jarmon	Property Coordinator
Joan Joyce	Administrative Analyst Specialist
Tom Ritchey	Manager, Building Services

Tom Shigenaka	Material Coordinator
Willem van der Pol	Acting Director, Physical Plant
Melinda White	Supervisor, Work Order Control
Deborah Wiedeman	Budget Analyst

CALIFORNIA STATE UNIVERSITY, HAYWARD

Dr. Norma S. Rees	President
John Abbey	Assistant Controller
Dave Cowden	Engineering Manager, Facilities Management
Kris Erway	Budget Officer
Dan Franke	Work Control Supervisor, Facilities Management
Randy Gale	Grounds Manager, Facilities Management
Mary Hootman	Manager, General Accounting and Financial Reporting
Neal Hoss	Controller
Durga Krishnamoorti	System Analyst, Facilities Management
Georgia Lang	Storekeeper, Facilities Management
Mirasol Mercado	Budget Analyst/Administrative Supervisor, Facilities Management
Dick Metz	Vice President, Administration and Business Affairs
Milton Owens	Custodial Manager, Facilities Management
Jordan Rich	Associate Director, Facilities Management
Randy Porter	Associate Vice President, Facilities Planning and Operations
Ricardo Sanchez	Director, Facilities Management

HUMBOLDT STATE UNIVERSITY

Dr. Alistair W. McCrone	President
Mark Baker	Supervisor of Building Trades
Mike Bailey	Planner Estimator Scheduler
Ken Combs	Director of Physical Services
Don Christensen	Vice President for Development and Administrative Services
Mike Douglas	Procurement
Charlotte Ferguson	System Administrator
Bruce Hawkins	Manager of Construction Services
Wayne Hawkins	Manager of Grounds and Landscape Services
Kerry Kronick	Chief of Custodial Services
Shirley Messer	University Budget Director
Tim Moxon	Director of Plant Operations
Barbara Ricon	CAIII Work Control Clerk
Rosemary Smith	Customer Services Coordinator
George Wright	Chief Engineer/Energy Manager

CALIFORNIA STATE UNIVERSITY, LONG BEACH

Dr. Robert Maxson	President
Laurie Angel	Division Fiscal Manager
Charles Aubrey	Storekeeper
Tim Ball	Associate Director, Facilities Management
Susan Brown	Director of Physical Planning
Scott Charmack	Associate Vice President of Physical Planning & Facilities Management
William Griffith	Vice President for Administration and Finance
Richard Hernandez	Manager of Custodial Services
Kathleen Hext	Director of Internal Auditing
Mikell Morrison	Administrative Operations Manager, Facilities Management
Mary Pearson	Buyer, Facilities Management
Robert Quirk	Director of Facilities Management
Jeff Riggs	Manager of Grounds and Landscaping
Martha Rivera	Supervisor Customer Service Center
Jacqueline Sunde	Budget Manager, Facilities Management
Suzanne Wallace	Assistant Director, Facilities Management
Randall Walsh	Division Information Systems Supervisor
Dewayne Wolfe	Associate Director, Facilities Management
Mike Wythe	Building Trades Supervisor

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

Dr. James M. Rosser	President
Patrick Bennett	Manager, Building Trades/Work Control
Judy Castenada	Administrative Analyst
Cheryl Carrillo	Materials Coordinator
Ronald Fangmeyer	Manager, Grounds
Steven Garcia	Vice President for Administration and Finance
Ali Izadian	Director Facilities Planning and Construction
Yuet Lee	Internal Auditor
Guadalupe Moreno	Associate Budget Analyst
Norman Morris	Manager, Custodial Services
Gary Murph	Assistant Vice President for Administration and Finance
Sri Renganathan	University Controller
Adriana Rodriguez	Administrative Support, Facilities Services
Henry Soto	Director, University Budget
Glenn Venner	Director of Facilities Services

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

Dr. Bob Suzuki	President
Patricia Farris	Vice President, Administrative Affairs Division
Cal Allsup	Facilities Management Manager
Rosemary Anaya	Facilities Management, Customer Service Manager
Mark Carrillo	Stock Clerk
Faye Hartman	Manager, Budget University Financial Services
Pali Jogani	Facilities Management, Customer Service Representative
Tye Kitasato	Manager, Landscape Services
Darwin Labordo	Director, University Financial Services
George Lwin	Facilities Management, Associate Director
Chris McAlary	Facilities Management, Director
Larry McLerran	Motor Pool and Warehouse Manager
Iva Moore	Storekeeper I
Gail Pipal	Director, Capital Planning & Project Development
Marilynn Wilkerson	Manager, Custodial Services

CALIFORNIA STATE UNIVERSITY, SACRAMENTO

Dr. Donald Gerth	President
Bruce Balon	Manager, Work Control
Don Brown	Storekeeper
Ed Del Biaggio	Vice President for Administration
Richard Entrican	Custodian
Kent Ewing	Manager, Custodial Services
Edna Flores	Accounting Technician
Michael Gray	Associate Systems Analyst
Linda Hafar	Associate Director Plant Services
Lisa Hall	Administrative Operations Analyst
Howard Harris	Associate Vice President Facilities Management
Donald Hendricks	Manager Building Trades
Andy Kingsbury	Manager, Grounds and Landscaping Services
Kathi McCoy	Management Auditor
Gary McRoberts	Lead Grounds Worker
James Osinski	Supervising Building Service Engineer
Carolyn Pittman	University Budget Officer
Ron Richardson	Manager, Facilities Planning
Mario Ruiz	Director of Plant Services
Tony Sanchez	Supervising Custodian
Jon Self	Associate Vice President of Finance
Paul Serafimidis	Chief Engineer, Central Plant

SAN DIEGO STATE UNIVERSITY

Dr. Stephen Weber	President
Scott Burns	Assistant Director, Physical Plant
John Eaddy	Chief of Custodial Services, Physical Plant
Anthony Fulton	Director, Facilities Planning
Ellene Gibbs	Director, Business Information Management
Ida Halm	Accounting Technician, Physical Plant
Martin Holzman	Director, Physical Plant
Alison Hunter	Tax and Audit Coordinator
Gretchen Jones	Associate Director, Physical Plant
Bill Lekas	Administrative Operations Analyst, Physical Plant
Keith Ochs	Supervising Building Service Engineer, Physical Plant
Ken Perry	Associate Vice President, Financial Management
Linda Richter	Director, Budget and Planning
Sally Roush	Vice President, Business and Financial Affairs
Carl Schneider	Chief of Programs and Engineering, Physical Plant
Joe Stahley	Assistant Director, Physical Plant
Valerie Wheeler	Work Control Coordinator, Physical Plant

CALIFORNIA STATE UNIVERSITY, STANISLAUS

Dr. Marvalene Hughes	President
Carl Coffey	Senior Director, Facilities Planning & Operations
Robert Gallegos	Director, Physical Plant
Gary Krietsch	Supervisor, Planning & Construction Services
Cindy Lindo	Clerical Assistant
David Loree	Stock Clerk
Shirley Mollard	University Budget Manager
Maggie Payne	Work Order Coordinator
Becka Paulsen	Controller Financial Services
Julia Reynoso	Resource Analyst
Mary Stephens	Vice President, Business & Finance
Victor Takahashi	Supervisor, Energy & Engineering Services

State of California

Trustees of The California State University

Memorandum

To: Mr. Larry Mandel
University Auditor
Office of University Auditor

Date: June 28, 2000

RECEIVED
University Auditor

From: Richard P. West
Executive Vice Chancellor and Chief Financial Officer
Business and Finance Division

JUN 30 2000

The California State
University

Subject: **Audit Report**
Operation and Maintenance of Plant
Systemwide Report

I am pleased that the ten campuses audited were in general compliance with applicable state and CSU policies and procedures. I have reviewed the report's findings with my Capital Planning, Design and Construction (CPDC) staff and concur with the recommendations. It is our intent to issue three comprehensive Executive Orders that incorporate policy revisions for all the audit findings, with the exception of the Physical Master Plan finding which will be handled via an update to the SUAM. Our specific comments to the auditors' findings and recommendations follow.

Maintenance Management Program

Recommendation:

1. We concur and will issue by September 1, 2000, a revised Executive Order consolidating policy regarding the requirement for a comprehensive planned maintenance and capital renewal program that ensures all tasks are accomplished in a timely manner.

Work Order Program Administration

Recommendation:

2. We concur and will issue by September 1, 2000, a revised Executive Order requiring a computerized work order system to carry out all identified maintenance tasks in a timely manner.

Physical Audits and Group 1 Equipment

Recommendation:

3. We concur and will issue by September 1, 2000, a revised Executive Order requiring a bi-annual audit and listing of Group 1 equipment in the campuses' planned maintenance program.

Memo to Mr. Mandel
 June 28, 2000
 Page Two

Quality Control

Recommendation:

4. We concur and will issue by September 1, 2000, a revised Executive Order requiring a systematic program to review the quality of work performed to assure compliance with an approved work standard.

Chargebacks and Non-Maintenance Work

Recommendation:

5. We concur and will issue by September 1, 2000, a revised Executive Order regarding the allocation of costs among auxiliary enterprise activities and the reimbursement of the general fund for facilities, goods and services provided by the general fund.

Non-General Fund Operations

Recommendation:

6. We concur and will issue by September 1, 2000, a revised Executive Order regarding the allocation of costs among auxiliary enterprise activities and the reimbursement of the general fund for facilities, goods and services provided by the general fund.

Maintenance Materials and Equipment

Recommendation:

- 7/8. We concur and will issue by September 1, 2000, a revised Executive Order requiring written policies and procedures for effective materials management with resultant written records demonstrating internal controls over the purchase, storage and use of plant operations department materials.

Utilities Management

Recommendation:

9. We concur and will issue by September 1, 2000, a revised Executive Order with respect to the need for ongoing maintenance of a campus-wide rolling five-year energy conservation and utilities management plan.

Physical Master Plan

Recommendation:

10. We concur and will issue a revised CPDC SUAM Section II 9009 by September 1, 2000, to clarify when a thorough re-evaluation of the campus physical master plan is to occur.

cc: Mr. Brad Wells
 Mr. J. Patrick Drohan
 Ms. Elvyra F. San Juan
 Ms. Nancy Frelander-Paice

THE CALIFORNIA STATE UNIVERSITY
OFFICE OF THE CHANCELLOR

BAKERSFIELD

CHANNEL ISLANDS

July 6, 2000

CHICO

MEMORANDUM

DOMINGUEZ HILLS

FRESNO

TO: Larry Mandel
University Auditor

FULLERTON

HAYWARD

FROM: Charles B. Reed 

HUMBOLDT

SUBJECT: Draft Final Report 99-35 on *Operation and Maintenance of Plant Systemwide*

LONG BEACH

LOS ANGELES

In response to your memorandum of July 6, 2000, I accept the response as submitted with the draft final report on the Operation and Maintenance of Plant, Systemwide.

MARITIME ACADEMY

MONTEREY BAY

NORTHRIDGE

CBR/cw

POMONA

Enclosure

SACRAMENTO

SAN BERNARDINO

cc: Mr. Richard P. West, Executive Vice Chancellor/Chief Financial Officer

SAN DIEGO

SAN FRANCISCO

SAN JOSE

SAN LUIS OBISPO

SAN MARCOS

SONOMA

STANISLAUS