

OPERATION AND MAINTENANCE OF PLANT

**CALIFORNIA STATE UNIVERSITY,
SACRAMENTO**

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ABBREVIATIONS

CPDC	Capital Planning, Design & Construction (previously PPD)
CSU	California State University
CSUS	California State University, Sacramento
FAMIS	Facilities Management Information System
FM	Facilities Management
MMS	Maintenance Management System
OMP	Operation and Maintenance of Plant
PM	Preventive Maintenance
SAM	State Administrative Manual
SUAM	State University Administrative Manual

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 are 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 groundskeeping;
- ▶ 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 June 1999 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 groundskeeping;
- ▶ □ 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.

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, to identify inventory shortages/overages.

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.

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. At California State University, Sacramento, Facilities Management (FM) manages the OMP program.

OPINION

We visited the California State University, Sacramento campus from May 3, 1999, through June 3, 1999, and audited the procedures in effect at that time.

In our opinion, the administration and management of the OMP program provided clear lines of organizational responsibility, and budget-monitoring procedures were effective. Areas in need of improvement are referenced in the executive summary.

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 [6]

MAINTENANCE MANAGEMENT SYSTEM [6]

The Facilities Management Information System (FAMIS) was not totally operational and administrative/productivity reports for the maintenance/repair program, inventory management, and chargeback billings were not always accurate or complete. A fully operational maintenance management system, which produces complete and accurate administrative reports, decreases the risk of system breakdowns and helps to ensure that maintenance and repairs are performed on a timely basis and billed accurately.

PHYSICAL AUDITS [7]

Annual physical audits of each facility had not been conducted since July 1995. A complete physical audit helps to ensure that all maintenance/repair requirements are identified and decreases the risk of system breakdowns and deterioration of facilities.

QUALITY CONTROL [7]

A comprehensive quality control program had not been fully implemented. Implementation of such a program decreases the risk of system breakdowns and deterioration of facilities and grounds, and helps to ensure that work is performed in accordance with established procedures.

CHARGEBACKS AND NON-MAINTENANCE WORK [8]

Procedures governing reimbursements (chargebacks) to Facilities Management (FM) for services rendered were not adequate. Adequate controls over chargebacks increases the likelihood for timely, accurate, and complete reimbursement to FM and the campus for services rendered.

MAINTENANCE MATERIALS AND EQUIPMENT [10]

MAINTENANCE MATERIALS AND SUPPLIES INVENTORY [10]

Maintenance materials and supplies inventory procedures were in need of improvement. Strengthening inventory controls reduces the risk of lost or stolen assets and could result in lower overall inventory costs.

SMALL HAND TOOLS AND EQUIPMENT [12]

Accountability over small hand tools and equipment was not uniformly established within all areas of Facilities Management (FM). Proper accountability over small hand tools and equipment in all areas decreases the risk of lost or stolen assets.

OBSERVATIONS, RECOMMENDATIONS, AND CAMPUS RESPONSES

MAINTENANCE MANAGEMENT PROGRAM

MAINTENANCE MANAGEMENT SYSTEM

The Facilities Management Information System (FAMIS) was not totally operational and administrative/productivity reports for the maintenance/repair program, inventory management, and chargeback billings were not always accurate or complete.

We noted that:

- ▶ FAMIS did not provide adequate preventive maintenance (PM) administrative reporting, such as PM scheduling and backlog reports.
- ▶ Preventive maintenance work schedules and detailed work tasks had not been entered into FAMIS or verified for all crafts.
- ▶ FAMIS did not provide a current listing of Group I equipment programmed for replacement.
- ▶ FAMIS did not provide adequate or accurate administrative reporting for work control (backlog reports), inventory management, and billing (labor/material chargebacks).

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, including a current annual listing of Group I equipment programmed for replacement.

CSU directive BA 84-25, *Implementation of Trustees' Resolution RA 9-83-057*, dated July 25, 1984, states that a work order system that reasonably accounts for all resources within plant operations will be implemented on each campus.

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.

The director of plant services stated that maintenance management data (PM, inventory, and billing) was not completely or accurately converted from the Maintenance Management System (MMS) to the FAMIS during the May 1998 data conversion. The director of plant services also stated that the last listing of Group I equipment was produced in May 1998 and due to data conversion problems associated with the new FAMIS system, a current listing was not available. He further stated that prior versions of the FAMIS did not always allow full operation of the system and a new version of the FAMIS, installed in February 1999, has allowed many corrections to prior system issues.

A maintenance management system that is not fully operational and produces inaccurate and incomplete administrative reports increases the risk that maintenance and repairs will not be performed on a timely basis, chargebacks may be inaccurate, and system breakdowns will occur.

Recommendation 1

We recommend that the campus complete development and implementation of the FAMIS system including, preventive maintenance, Group I equipment programmed for replacement, work control, inventory management, and billing.

Campus Response

Facilities Management will complete development and implementation of the FAMIS system by March 31, 2000. To support our corrective action, we will send sample reports of preventative maintenance scheduling, the status of Group I equipment, work control procedures, inventory management and cost recovery activity.

PHYSICAL AUDITS

Annual physical audits of each campus facility had not been conducted since July 1995.

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.

The associate vice president stated that annual facilities audit are not cost effective. He further stated that the campus has implemented analysis reports including the age of buildings and comparative industry standards to develop maintenance/repair program requirements.

Failure to fully implement the CSU maintenance management program increases the risk that all maintenance/repair requirements will not be identified and system breakdowns and deterioration of facilities will occur.

Subsequent to our fieldwork, Facilities Management completed a physical audit of each campus facility.

QUALITY CONTROL

A comprehensive quality control program had not been fully implemented.

We noted that:

- ▶ Routine, documented quality control checks of preventive maintenance and work orders were not performed. Work was reviewed on an informal basis as time permitted.
- ▶ Custodial supervisor inspections were not always performed and documented as required by supervisor job descriptions.
- ▶ Documented quality control checks of groundskeeping 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.

The director of plant services stated that many informal reviews are performed but not always documented.

A lack of fully implemented quality control procedures increases the risk that work will not be performed in accordance with established procedures and could result in system breakdowns and deterioration of facilities and grounds.

Subsequent to our fieldwork, Facilities Management implemented a comprehensive formalized quality control program.

CHARGEBACKS AND NON-MAINTENANCE WORK

Procedures governing reimbursement (chargebacks) to Facilities Management (FM) for services rendered were not adequate.

For example:

- ▶ Procedures were not adequate to ensure the accuracy of material costs and labor rates; review cost variances; and adhere to the in-house charge back policy. Our review of 30 work orders disclosed inaccurate material costs, inconsistent labor rates, unexplained cost variances, and non-compliance with the in-house charge back policy.
- ▶ Procedures had not been established to ensure that current labor rates are used. Non-casual labor rates currently used for chargebacks were last updated in September 1996.
- ▶ There was no supporting documentation to substantiate the 10% overhead rate used for chargebacks. In addition, the overhead rate had not been reviewed since the late 1980's.
- ▶ Although overhead was being applied to labor costs, overhead was not consistently applied to material costs.

- ▶ Procedures to determine whether non-general fund activities were fully charged back and to explain cost variances had not been established.
- ▶ Non-Casual labor rates, charged to non-general fund activities, did not include benefit costs.

CSU directive BA 84-25, *Implementation of Trustees' Resolution RA 9-83-057*, dated July 25, 1984, states, in part, that each campus will develop a chargeback system, which must ensure the return of all direct labor and material 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 as a percentage of total costs.

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

CSU 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. In the absence of specific CSU policy, recovery for the cost of support shall include the instrumental costs of providing the support.

SAM § 8752 indicates that state policy calls for departments to recover full costs whenever goods or services are provided to others.

The director of plant services stated that the administration of chargeback billings has been difficult due to FAMIS system reporting problems and the inability to produce many of the administrative/monitoring reports of the previous system. He further stated that the 10% overhead rate had not been reviewed for several years and that instances where the overhead rate was not consistently applied to material costs may have been an oversight or system related problem. Additionally, procedures regarding auxiliary and non-general fund activities have not been reviewed for several years.

Inadequate controls over chargebacks increase the risk of inaccurate, incomplete, and untimely reimbursements to FM for services rendered and reduce funds available for campus maintenance and repairs.

Recommendation 2

We recommend that the campus:

- a. ensure procedures and FAMIS reporting are adequate to allow a detailed review of chargeback billings including the accuracy of labor and material costs, cost variance analysis, and adherence to in-house charge back policy;
- b. establish procedures to ensure that current labor rates are used for chargebacks;
- c. substantiate the validity of the 10% overhead rate and apply that rate to total work order cost; and
- d. review all services performed for non-general fund activities and strengthen procedures to ensure that full reimbursement is received.

Campus Response

Facilities Management will, by December 31, 1999, revise its procedures to ensure that the chargeback process is effectively administered and includes a thorough review of the billings. These procedures will also ensure that current labor rates are used to calculate the reimbursement costs. To support our corrective action, we will send a copy of the revised procedures.

We will conduct a review of the chargeback process to determine an equitable overhead rate to be applied to total work order costs. In addition, we will identify the services performed for non-general fund activities and ensure, appropriate reimbursement is received. This review will provide documentation and rationale for the overhead rate and the reimbursement amount. We will complete this effort by March 31, 2000 for implementation at the beginning of the 2000/2001 fiscal year. To support our corrective action, we will send a copy of the overhead and reimbursement documentation.

MAINTENANCE MATERIALS AND EQUIPMENT

MAINTENANCE MATERIALS AND SUPPLIES INVENTORY

Maintenance materials and supplies inventory procedures were in need of improvement.

We noted that:

- ▶ A proper segregation of duties was not maintained over maintenance materials. Storekeepers within the custodial and groundskeeping services were responsible for ordering, receiving, inventory custody, issuing materials, and the physical inventory reconciliation process.
- ▶ Documentation to support the reconciliation of physical inventory counts to perpetual records was not always available. In addition, procedures performed by the central inventory clerk to identify

inventory shortages/overages included making adjustments to inventory records rather than performing reconciliations between inventory “on hand” and perpetual records.

- ▶ Custodial supplies were not recorded within the FAMIS inventory system.
- ▶ FAMIS inventory records were not always complete or accurate. A review of the FAMIS Inventory Value Detail Report disclosed that several items did not have a cost associated with the materials in inventory. In addition, fictitious dollar amounts and “on hand” quantities had been established for inventory items with a description of “NONE”.

SAM §3535 states that state agencies must 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 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 be developed and implemented at the campuses.

SAM §20003 states that a satisfactory system of internal accounting and administrative control shall include segregation of duties appropriate for proper safeguarding of state agency assets and a system of record keeping procedures adequate to provide effective accounting control over assets, liabilities, revenues, and expenditures.

The director of plant services stated that, due to the lack of a central warehouse for inventory, each department has been responsible for their individual inventory and proper procedures may not have always been followed. The manager of work control stated that, due to the FAMIS conversion problems, many of the inventory fields are incomplete or inaccurate and not considered reliable.

Lack of sufficient inventory controls increase the risk of lost or stolen assets and inaccuracies in material chargebacks, and lead to higher overall inventory costs.

Recommendation 3

We recommend that the campus:

- a. establish procedures to ensure proper segregation of duties over all items maintained in inventory;
- b. develop formalized internal policies and procedures for effective materials management;
- c. establish procedures to ensure that a documented physical inventory, including reconciliation to perpetual records, is performed on a periodic basis;

- d. include custodial supplies within the FAMIS inventory system; and
- e. review and validate FAMIS inventory records to ensure they are complete and accurate.

Campus Response

By March 31, 2000, Facilities Management will enhance its procedures to ensure that maintenance materials are properly managed and the various duties are adequately segregated. In addition, procedures will be strengthened to ensure the inventory process is effectively administered. Facilities Management will record custodial supplies in the inventory system and validate inventory records to ensure they are complete and accurate. To support our corrective action, we will send a copy of the procedures.

SMALL HAND TOOLS AND EQUIPMENT

Accountability over small hand tools and equipment was not uniformly established within all areas of Facilities Management (FM).

A review of procedures used by each craft disclosed that certain crafts maintained extensive accountability procedures, including check-out lists and employee acknowledgments, while other crafts did not maintain any accountability over hand tools and equipment assigned to employees.

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.

The director of plant services stated that control procedures for small hand tools and equipment has always been the responsibility of each trade manager, and uniform accountability standards have not been established.

Without proper accountability over small hand tools and equipment, there is an increased risk of lost or stolen assets.

Subsequent to our fieldwork, Facilities Management implemented a small hand tool accountability and control program for all crafts.

APPENDIX A: PERSONNEL CONTACTED

<u>Name</u>	<u>Title</u>
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