

OPERATION AND MAINTENANCE OF PLANT

**CALIFORNIA STATE POLYTECHNIC
UNIVERSITY, POMONA**

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ABBREVIATIONS

CPDC	Capital Planning, Design & Construction (previously PPD)
CSU	California State University
CSUP	California State University Pomona
FM	Facilities Management
OMP	Operation and Maintenance of Plant
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 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 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.

In April 1981, Executive Order No. 343, *Establishment of Planned/Programmed Maintenance*, was

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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, Pomona, Facilities Management (FM) manages the OMP program.

OPINION

We visited the California State University, Pomona campus from May 10, 1999, through June 11, 1999, and audited the procedures in effect at that time.

In our opinion, the automated work order system was adequate to manage and account for the maintenance/repair program, 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 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 [5]

PHYSICAL AUDITS [5]

Annual physical audits of each facility had not been conducted since May 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 [5]

A comprehensive quality control program had not been fully developed. 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 [7]

Chargeback procedures did not provide for full recovery of costs for non-maintenance work. Updating chargeback rates ensures the adequate recovery of costs incurred by Facilities Management for services rendered and increases the funds available for maintenance and repairs.

MAINTENANCE MATERIALS AND EQUIPMENT [9]

Maintenance materials and supplies inventory controls and procedures were not adequate. Strengthening inventory procedures reduces the risk of lost or stolen assets, which could result in lower overall inventory costs.

PHYSICAL MASTER PLAN [11]

A thorough reevaluation of the campus physical master plan had not occurred since May 1991. Timely reviews of the campus physical master plan help to ensure that facilities meet current and future needs.

OBSERVATIONS, RECOMMENDATIONS, AND CAMPUS RESPONSES

MAINTENANCE MANAGEMENT PROGRAM

PHYSICAL AUDITS

Annual physical audits of each campus facility had not been conducted since May 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 director for facilities management stated that he believed that the required *Five Years Special Repair* list sufficed as the annual physical audit of each facility.

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.

Recommendation 1

We recommend that the campus perform an annual physical audit of each campus facility to identify maintenance/repair program requirements.

Campus Response

We concur with the recommendation. We are planning to perform a formal physical audit by April, 2000.

Although we have not conducted a formal physical audit since 1995, our technicians routinely check and inspect the facilities to identify defective items for repair or replacement. Major defective items are synthesized into a Five Year Special Repairs/Deferred Maintenance List that is used to address annual Special Repairs and Deferred Maintenance needs for the campus. We have found that formal physical audits are highly labor intensive, and when performed annually, the reports often reveal little or no major significant changes. We believe that an audit performed every 5 years would be more meaningful and should adequately identify the condition of the facilities. In collaboration with the Chancellor's Office, we are planning to make a recommendation to amend the Executive Order #343 to extend the need for formal physical audits to once every five years.

QUALITY CONTROL

A comprehensive quality control program had not been fully developed.

We noted that:

- ▶ Routine documented quality control checks of preventive maintenance and service work orders were not performed. Work was reviewed on an informal basis as time permitted.
- ▶ Custodial supervisor inspections were not always documented.
- ▶ 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 associate director for facilities management stated that many informal reviews are performed but not 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.

Recommendation 2

We recommend that the campus establish and implement a comprehensive, formalized quality control program to ensure compliance with facilities management work standards.

Campus Response

We concur with the recommendation. When the audit occurred, we were in the process of developing a comprehensive quality control program. We are now in the process of completing the program, and will fully implement all segments of the program by April, 2000. Quality control programs will be developed and implemented in the Custodial, Landscaping, Customer Service, Financial, Construction, and Maintenance Operation units within the Facilities Management department.

Custodial and Landscaping Services: We have established Quality Service Standards with tasks and frequencies for routine services. Employee focus groups were involved in the design and implementation of the quality improvement process. Quality inspection check lists and procedures have been developed. Daily, weekly and quarterly inspection frequencies are being reviewed. Inspection results will ensure expected performances adhere to established work standards. Constructive feedback will be identified on the inspection reports. Corrected date and re-inspection date will be identified on the reports to ensure compliance occurs.

Customer Service: Quality Control standards and procedures are being refined, to establish concrete performance measures linking internal operations and customer satisfaction. The work order review

program will measure departmental efficiencies, service quality, billing, real time quality (accuracy and timeliness) and will ensure the work order cycle has been fully completed, and reviewed by appropriate staff prior to closing the work order. In the monthly and quarterly reviews, the effectiveness of work processes will be measured against established performance standards. When the program is implemented, all appropriate staff will receive timely feedback on the accuracy of work order processing, and the process will allow managers to identify specific areas needing training or revision. Customer Service staff will review chargeback work order charges with appropriate managers to identify and correct any discrepancies, before issuing bills to the customers.

Financial Unit: This unit will be established by January 2000. Presently, the internal accounting system is reconciled to the University accounting system on a monthly basis. All revenue and expense variances are identified, analyzed, and reconciled to ensure all information is accurate. All chargeback revenue received is compared to actual expense incurred to guarantee all expenses have been recovered. Brio reports are used to identify variances, and accuracy of all financial records. The receipt of the revenue which are billed by the Customer Service staff will be reviewed by Financial staff for accuracy, changes, and incorrect charges. The chargeback work orders will not be closed until financial staff have reviewed all data for accuracy. Currently, a monthly review of overtime, temporary and student salary data is in place to ensure dollars billed and paid are correct.

Construction and Maintenance Operation: The unit is working to establish quality processes and performance standards. Post completion analysis of work orders will compare the product/service quality vs. operational performance standards. Work orders will be reviewed by managers to determine if the product and service requirements were translated into efficient and effective delivery processes. The managers and supervisors will assess all labor and materials associated with work orders to determine if the data provided is accurate and reasonable, the work was completed in a timely manner, and all missing information will be noted and corrected prior to closing the work order. The Managers will be committed to evaluate and improve on work order processes to improve efficiency and effectiveness on product delivery, service quality, and timeliness. Aging Work Order Reports that are issued bimonthly are currently used by the managers and supervisors to review and follow up on outstanding work orders to identify any problems relating to scheduling or job completion. Chargeback Reports are issued monthly and reviewed by managers to ensure all material and labor charges are correctly posted before any additional charges or refunds are issued to customers. Bimonthly Variance Reports that compare actual vs. estimates are reviewed by managers to monitor productivity, to identify possible changes in scope of work, and to advise the customer in a timely manner, if actual costs exceed estimates. Request for change orders will be formalized.

CHARGEBACKS AND NON-MAINTENANCE WORK

Chargeback procedures did not provide for full recovery of costs for non-maintenance work.

We noted that:

- ▶ Facilities Management (FM) was using cost recovery rates from August 1988.

- ▶ □ The cost recovery rates included salaries plus benefits and a prorated portion of administrative and supervisory costs. However, overhead costs were not specifically identified. As a result, there was no assurance that overhead costs were being fully recovered.
- ▶ □ Charges for custodial supplies for leased facilities events were based on estimated attendance (i.e., 10% of projected crowd size). This rate was established years ago based on historical consumption data. However, we were told that the lessee typically underestimates attendance, since the billing is completed prior to the event and subsequent billings are not processed, even if actual attendance significantly exceeds the estimate.

Code Memo BA 84-25, dated July 25, 1984, states, in part, that each campus will develop a chargeback system for plant maintenance responsibilities, which must ensure the return of all direct labor and material costs, and costs for contracted services, to the Plant Operations budget. Additionally, the policy should include reimbursements 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 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 indicates that state policy calls for departments to recover full costs whenever goods or services are provided to others.

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.

The FM associate director stated that FM is currently using the campus Physical Plant Cost Recovery Policy implemented on August 11, 1988, but agrees that the rates need to be adjusted to ensure that overhead and administrative costs are recovered.

Using outdated and incomplete chargeback rates reduces the likelihood that complete reimbursement will be made to FM for services rendered. This reduces the amount of funds available for campus maintenance and repairs.

Recommendation 3

We recommend that the campus:

- a. update labor and benefit rates used for chargebacks;

- b. develop a separately identifiable overhead that includes all overhead costs;
- c. revise the methodology used to recover custodial supply costs for leased facilities events to assure full recovery; and
- d. establish procedures to maintain labor, benefit and overhead rates on a current basis.

Campus Response

We concur with the recommendation. The new chargeback rates will be established in January, 2000 with the full implementation of the new rates on July 1, 2000. On the issue of custodial supplies for lease of facilities, we have instituted procedures that will allow us to issue subsequent bills to the lessee to cover the actual cost of supplies.

We will perform a detailed analysis of the chargeback operation in establishing new chargeback rates for approval by the President and his Cabinet. The new rates will be calculated based on our current labor and benefit rates, and they will include associated overhead and indirect costs such as administrative, supervision, estimating, tools and equipment, vehicles, information and maintenance management systems, etc. Additional procedures will be established to recalculate the rates annually to reflect annual salary and benefit compensations, and any overhead adjustments.

Charges for custodial supplies for lease of facilities events are based on a percentage of the projected total attendance per day. We have found that the percentage does adequately cover the cost of custodial supplies. The problem occurs when the lessee underestimates the attendance. We have now established procedures with Procurement and Support Services to issue subsequent bills to the lessee, if we find that the estimated actual attendance is greater than the projected amount.

MAINTENANCE MATERIALS AND EQUIPMENT

Maintenance materials and supplies inventory controls and procedures were not adequate.

We noted that:

- ▶ A proper segregation of duties was not maintained over maintenance materials. Warehouse storekeepers were responsible for ordering, receiving, inventory custody, issuing materials, performing physical inventory counts, and posting adjustments to perpetual inventory records.
- ▶ To identify inventory shortages/overages, physical inventory procedures included making adjustments to inventory records rather than performing reconciliations between inventory “on hand” and perpetual records.

SAM §3535 states that 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 motor pool and warehouse manager stated that more controls are needed, but staffing issues exist. The director of facilities management stated that he was unaware of the inventory adjustment procedures.

Lack of sufficient inventory controls not only increase the risk that assets will be lost or stolen, but it can also lead to higher overall inventory costs.

Recommendation 4

We recommend that the campus:

- a. establish procedures in the central warehouse to ensure proper segregation of duties over all items maintained in inventory; and
- b. establish procedures to ensure that adjustments to the perpetual inventory are properly reviewed and approved and based on a proper reconciliation of recorded inventory to physical counts.

Campus Response

We concur with the recommendation. We are planning to analyze the job descriptions, develop procedures, and provide training to segregate duties in the warehouse operation. Full implementation is expected by April 2000.

We are in the process of analyzing the roles and responsibilities of the two full-time warehouse staff. With only two employees to manage the entire warehouse operation, some overlapping duties may be unavoidable; however, every effort will be made to segregate their duties in the key processes. Segregation of duties will be delineated along purchase requisitioning, receiving and issuing vs. inventory control and reconciling inventory variances. At the completion of the analysis, new job descriptions and performance standards will be established. Employees will be retrained to perform

their new roles and responsibilities with newly established guidelines and procedures for quality control to ensure compliance with the assigned duties. Additional procedures will also be established to reconcile inventory shortages and overages.

PHYSICAL MASTER PLAN

A thorough reevaluation of the campus physical master plan had not occurred since May 1991.

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 PPD (Capital Planning, Design and Construction).

The vice president of administrative affairs and the director of facilities management stated that the campus has never been requested to do this and, by practice, this has not been enforced.

Failure to review the campus physical master plan on a timely basis increases the risk that facilities will not meet current and future needs.

Recommendation 5

We recommend that the campus obtain clarification from CPDC regarding the periodic physical master plan reevaluation requirement and comply as instructed.

Campus Response

We concur with the recommendation.

When the audit occurred, we were in the process of reevaluating and preparing an updated master plan for the campus. We are now in the process of preparing the Environmental Impact Report. We anticipate presenting a major master plan revision to the Board of Trustees in spring 2000.

APPENDIX A: PERSONNEL CONTACTED

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