CALIFORNIA STATE UNIVERSITY

Its Common Management System Has Higher Than Reported Costs, Less Than Optimal Functionality, and Questionable Procurement and Conflict-of-Interest Practices

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California State University response as of March 2004

Audit Highlights . . .

Our review of the California State University's (university) Common Management System (CMS) revealed the following:

- ☑ *The university did not establish a business case for CMS to define its intended benefits and associated costs and ensure that the expenditure of university resources is worthwhile.*
- ☑ *The university's previous cost projections understated the full costs of CMS over its now nine-year project period; these costs—including an estimated $269 million for maintenance and operations—are now expected to total $662 million.*
- ☑ *Problems exist that cast doubt on whether CMS will achieve all the objectives intended, nor offer what could have been achieved from a systemwide project.*

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The Joint Legislative Audit Committee (audit committee) requested that the Bureau of State Audits review the California State University's (university) Common Management System (CMS) project. Specifically, the audit committee asked that we identify the initial cost estimates and current projected costs for CMS including integration costs, consultant costs, data center costs, and the university's funding sources for these related expenditures. Additionally, the audit committee asked us to identify the university's needs, benefits, and return on investment from CMS and its supporting data center. The audit committee also asked us to review the university's management and oversight for CMS and its supporting data center, the university's process to select the software, hardware, and consultants contributing to the CMS project, and how implementation has affected growth in employee positions and workload. The audit found the following:

Finding #1: The university did not develop a business case for CMS.

The university did not establish a business case for CMS by preparing a feasibility study report that evaluated the need for and the costs and benefits of this new administrative computer system. Without such a feasibility study, the university lacks persuasive answers to the Legislature's questions about its use of state resources for CMS and its supporting data center.

The Public Contract Code requires state agencies to follow the State Administrative Manual (SAM) when acquiring information technology (IT) goods and services. To ensure compliance with the code's intent, the SAM procedures include a need and

- ☑ *Although the university followed recommended procurement practices to acquire data center services, its procurements for software and consultants on the project raise questions about the fairness and competitiveness of the university's practices.*
- ☑ *The university did not do enough to prevent or detect apparent conflicts of interest on CMS-related procurements.*

cost-benefit analysis. According to SAM, a feasibility study "must establish the business case for the investment of state resources in [an IT] project by setting out the reasons for undertaking the project and analyzing its cost and benefits." However, under Public Contract Code Section 12100.5, the university is exempt from certain state oversight and approval of its IT procurements. The university believes the Public Contract Code further exempts it from following SAM regarding feasibility study reports, although the statute requires the university to adopt policies and procedures that further the legislative policy expressed in the code.

Regardless of the applicability of SAM feasibility study procedures to its own practices, the university would have been in a stronger position to answer legislative and public questions concerning the need for CMS if it had performed a need and cost-benefit analysis consistent with SAM. Had the university conducted a feasibility study that mirrored the SAM requirements, it would have maintained sufficient documentation to support the project's intent, justification, nature, and scope. Additionally, performing such a feasibility study would have provided the university with an opportunity to quantify the increased business process efficiencies expected from CMS. Although the university has given various reasons for pursuing a systemwide implementation of CMS, individually and collectively they do not justify spending $662 million over the nine-year project period, an estimated $393 million in one-time costs and $269 million in maintenance and operations costs, without establishing the business case.

To ensure that the university's future IT projects are appropriate expenditures of state resources, the university should adopt policies and procedures that require a feasibility study before the acquisition and implementation of significant IT projects. Such a feasibility study should include at least a clearly defined statement of the business problems or opportunities being addressed by the project, as well as an economic analysis of the project's life-cycle costs and benefits compared with the current method of operation. The university should also establish quantitative measures of increased business process efficiencies to measure the benefits achieved through common management and business practices.

University Action: Corrective action taken.

The university stated that it issued an executive order that requires feasibility studies for significant IT projects and establishes policies and procedures for them. The university further indicated that it has established metrics through its quality improvement process to measure process efficiencies and expected to apply these qualitative and quantitative measures of process efficiencies across the university system for the first time in spring 2004.

Finding #2: The university's CMS project costs exceed initial estimates, and its cost monitoring procedures are inadequate.

Recent project cost data indicate that the university's earlier 1998 and 1999 cost estimates of between $332 million to $440 million for its CMS project understated the project's costs. A more comprehensive review of actual CMS expenditures and projections in June 2002 revealed that total project costs for the types of expenses the university initially estimated—what it considers to be "new" costs—now total $482 million. Additionally, this $482 million excludes other project-related campus costs the university did not include in its estimates because its focus was only on "new" costs. These other project-related costs include $63 million in implementation costs charged to other campus budgets and $117 million in campus maintenance and operations costs over the now nine-year development and implementation period, bringing the total projected costs to $662 million.

Moreover, the university cannot accurately report on the project's expected systemwide costs because it has not established an ongoing process to capture and monitor the costs campuses actually are incurring or projecting to incur. Although it tracks central project costs, the chancellor's office does not track campus costs because it believes they are a campus responsibility. As a result, the university was not aware of its total systemwide costs for the CMS project until campuses had reported their actual and projected CMS costs in a June 2002 survey. Furthermore, the university has not reported to the Legislature a clear picture of the project's financial status. In its November 2002 Measures of Success report to the Legislature, the university reported the project budget for fiscal years 2000–01 and 2001–02 at $30 million and $31 million,

respectively, and the actual costs "at budget;" however, it did not report campus costs which totaled $29 million and $47 million in those respective fiscal years.

Additionally, although the university tracks central project costs, it did not use project status reports that periodically track variances between the actual and projected CMS costs on the one hand and the initial and revised CMS project budgets on the other. Prudent project management calls for establishing approved initial budgets and tracking actual costs, enabling managers to report and monitor project progress through periodic status reports that analyze variances between the planned budget and the actual costs. These variances measure project performance and assist management in controlling the project schedule and costs by predicting shortcomings and reducing the risk of exceeding the budget.

Similarly, the university does not have a comprehensive systemwide funding plan for the CMS project. The university's funding plan only addressed expected CMS expenditures at the chancellor's office, not any campuses' funding needs. The chancellor's office expected campuses to determine their own costs and funding necessary to implement CMS. However, our funding survey determined that only seven of 23 campuses were able to provide funding plans for their projected CMS costs. When it does not finalize funding for all CMS costs up front, the university lacks a clear understanding of how the CMS project funding needs may affect its ability to meet other priorities, such as academic needs.

To ensure that it adequately monitors and controls project costs, the university should determine the quarterly cost information it needs to adequately monitor the project. After making this determination, the university should establish a mechanism to collect and compile comprehensive and systemwide project cost information that includes campus costs. Further, the university should compare the collected cost information against the approved systemwide project budget, publishing this information in a quarterly status report. The university should also ensure that it includes all costs of the CMS project in its annual reports to the Legislature, as well as ensure that the CMS project and all future IT projects have a systemwide funding plan that covers the entire scope of the project in place before beginning a project.

University Action: Corrective action taken.

The university stated that it has established procedures and parameters for implementing quarterly and annual reporting of data. It stated that it reported consolidated annual data in its November 2003 Measures of Success document, and included both central and campus costs to implement and operate CMS. The costs were collected from campuses and reported as systemwide totals in four expenditure categories consisting of implementation, in-kind, integration, and operations and maintenance. Additionally, the university stated that it established a process for annually collecting and reporting CMS financial plans for each campus along with their CMS expenditure plans. It reports that it collected campus financial plans for fiscal year 2003–04 and consolidated campus CMS financial data into a systemwide report used to identify short- or long-term financing needs for campus implementation efforts.

Finding #3: CMS may not achieve all of the university's business objectives due to the university's weak planning efforts early in the project and its limited expectations with regard to systemwide reporting.

The university expects to accomplish certain business objectives with its CMS project, but problems noted during our review indicate that CMS may neither fully achieve those objectives nor offer what could have been achieved from such a systemwide project. Doubts about CMS fully accomplishing its business objectives and achieving the potential of a systemwide implementation can be traced to the university's weak efforts early in the planning process and limited expectations with regard to systemwide reporting.

Although it initially planned to make as few modifications as possible to the PeopleSoft software, the university ultimately found that it needed to make about 200 modifications to the initial versions of the software applications to meet business requirements and other campus needs. Compounding the time and costs for modifications, PeopleSoft periodically releases new versions of the CMS software, and the university intends to keep current with those releases. Thus, the university will need to reapply many of the CMS modifications to the new releases, adding potentially significant maintenance costs in reapplying, testing, and implementing these modifications. Although we recognize that not all modifications take the same

amount of time and effort, we are unable to quantify which modifications were most costly because the university did not track modification costs. Moreover, before purchasing the software, the university did not sufficiently evaluate its specific business processes and software to understand up front which business processes the potential vendors' software products could accommodate and which software products would require modification to meet its business needs. Failing to make these evaluations up front, the university had no basis to anticipate the extent of software modifications it eventually would make or the loss of functionality some campuses would experience.

Furthermore, the university intended CMS to meet the business objectives of providing ready access to current, accurate, and complete administrative information, as well as establishing standards for common reporting processes. However, the university is not implementing the CMS software throughout the university in a manner that will maximize systemwide reporting. Instead of installing shared databases, the university has been installing separate and distinct databases for all but two campuses. Separate databases must be separately maintained and tested. Additionally, a wide variation in functionality across campuses will result because most campuses are not planning to implement all the modules or sub-modules (functionality elements) purchased under the PeopleSoft agreement and the functionality elements the university created for CMS, because the PeopleSoft software did not provide the needed functionality. This lack of uniformity raises the cost of implementing and maintaining the CMS software and limits its usefulness in producing systemwide reports.

The university has also experienced problems with fixing software errors and with information security. Although providing updates and fixing some minor software errors to its newly modified CMS software is expected, the university also needed to make corrections and redistribute some of these CMS software updates and fixes. When the university takes more than once to provide complete updates or fix some errors, campuses must spend more time and money redoing their work or assume the risk of potential system errors. Furthermore, the university has not fully addressed the lack of security around a search feature in the PeopleSoft software that apparently allows employees access to the confidential information of other employees and students beyond what is needed to do their jobs. The university might have reduced the need to rework software fixes and improved information security had it

established an effective quality assurance function. Also, hiring an independent oversight consultant may likely have assisted the university in identifying and addressing quality assurance and information security deficiencies earlier in the CMS project.

Finally, the university's procurement approach of identifying, procuring, and implementing its own solution caused it to assume substantially all the responsibility for the CMS project, sharing little if any project risk with vendors and consultants. The university procured the software for the CMS project in September 1998, ultimately agreeing to pay PeopleSoft $37 million to use the software for the next eight years and for an initial amount of training and consulting services. It then hired consultants on an hourly basis to help it identify campus business needs, to design and develop the modifications needed for the software, and to help implement this software at campuses throughout the university system. However, the university could have structured its procurement so that, in return for a fixed fee, the winning firm would be responsible primarily for the successful implementation of whatever software product the university decided to use. The university then could have entered into a contract that paid the firm only upon completion of key deliverables, such as the successful modification of functionality elements within the software to meet the university's needs. Structuring contracts to pay only after deliverables have been tested and accepted is a recommended procurement practice. Instead, the university chose to purchase only the software, and it is conducting the substantial amount of work, with the assistance of consultants paid through additional contracts, necessary to ensure that the software is modified and implemented properly. The university concluded that it was best for it to modify and implement the software, but it never performed sufficient analysis to determine that a university installation provided the best value. As a result, it assumed the considerable financial and business risk involved in ensuring that the software meets its business needs and is implemented successfully at campuses.

To ensure that it achieves its stated business objectives for CMS, the university should continue its recently established practice of tracking actual hours spent on software modifications and consider this information when estimating the cost and time associated with developing and applying future software modifications. Also in the future, the university should evaluate its specific business processes against vendor products before procuring IT systems, so as to select the product that best

accommodates the university's specific needs. The university should also reassess the design of CMS and evaluate the economies that can be achieved by reducing the number of separate CMS databases. Similarly, the university should define the scope and associated costs of CMS by identifying the specific functionality that is necessary and establish a minimum level of functionality that all campuses will implement to not only minimize costs, but also to facilitate common systemwide reporting.

Additionally, to ensure it adequately addresses CMS project quality and information security, the university should establish a quality management plan and continue its efforts to establish an effective quality assurance function for the CMS project. Such steps may include hiring an independent oversight consultant to perform various quality assurance functions and to evaluate the progress of the CMS project. The university should also establish a policy on sensitive information requiring that campuses implement the use of confidentiality agreements for all employees with access to the CMS system.

Finally, the university should plan future procurements to share project risk with vendors and consultants, such as allowing them to propose their own solutions and structuring contracts to protect the university's interest, including provisions to pay only after deliverables have been tested and accepted.

University Action: Partial corrective action taken.

The university stated that it established a practice to record the actual hours spent to develop modifications and that it will use the data for ongoing maintenance decisions and planning future upgrades. Additionally, it stated that in the requirement development phase of future projects, it would consider the impact of current business processes on vendor selection before procuring IT solutions or software when best practices warrant such a review and that it implemented a policy that requires consideration of current and alternate business processes related to vendor selection. Further, in response to our recommendation to reassess the design of CMS, the university indicated that it evaluated alternative technology approaches and concluded that retrofitting at this stage in the university's implementation did not appear cost-effective and would introduce a higher technical risk, even if a single database were viewed to be more technically efficient. The university also stated that it defined and

published the scope of the revised CMS baseline core functionality and that campuses reported costs based on this revised baseline core functionality, as well as on the cost of planned functionality outside of this baseline. The university stated that it also evaluated the design for systemwide reporting using CMS and determined that its current design is appropriate for its needs. The university reports that it developed documentation for each area of systemwide reporting that identifies the data required, the source of the data, the edits useful for quality assurance, and the schedule for data submissions.

The university also stated that it implemented a CMS quality improvement initiative that established a quality assurance function within CMS. Further, the university indicated that it would expand oversight to include internal assessment by individuals outside the IT organizational environment. The university also stated that it issued policy and a letter to campus presidents related to protection and control of confidential data, including the required use of confidentiality agreements. It indicated that the software vendor developed software product improvements that restrict or grant users access to confidential data based on job function. Finally, the university reported that it would continue to use risk sharing with vendors when circumstances are consistent with industry best practices and when marketplace conditions make such an approach feasible, appropriate, and cost-effective. Additionally, the university stated that it made further revisions to its IT project procurement guidelines calling for identifying the best means for sharing risk with vendors ranging from the university assuming all the risk to extensive risk assumption by the vendor.

Finding #4: The processes the university used to select the software vendor and consultants on the project did not clearly demonstrate best-value procurements.

The university's process to select the software vendor and consultants for the CMS project did not clearly demonstrate best-value procurements that consider both quality of proposals and overall costs. For example, the procurement process by which the university selected a single CMS software vendor raises questions about whether the university used a fair and objective competitive process. Specifically, its solicitation

document did not provide for a method to select only one vendor, although the university decided late in the process that it needed such a method. Moreover, when the selection narrowed to two vendors, the university did not formally modify the procurement process nor use quantitative scoring to select a best-value vendor objectively. Likewise, the university could not demonstrate that it resolved issues that the procurement evaluation teams raised for the software ultimately selected. The university also could not show us how it determined that the cost differences between the competing vendors were immaterial. Further, the university's analysis comparing the finalist vendors' costs did not compare costs for a systemwide implementation and was based on a fraction of the actual maintenance and operations costs now estimated.

Additionally, the university's practice of employing consultants to work on the CMS project without appropriate competition raises more questions about the propriety of its business dealings. For instance, the university hired consulting firms under sole-source contracts for reasons that appear questionable. Further, although it recommends a discussion with consulting firms about scope of work and rates, the university does not require the solicitation of offers from more than one prequalified consultant with university-awarded master agreements. As a result, the university has not always solicited offers from multiple prequalified consultants before procuring their services and, therefore, cannot demonstrate that it procured best-value services.

To ensure it uses recommended practices in its future procurements, the university should use the procurement process appropriate to the procurement objective, restarting the process or formally modifying the process through written notification to vendors as the objectives change. The university should also establish a practice of using quantitative scoring to clearly demonstrate that it followed an objective evaluation process to identify the best-value vendor. It should also document the resolution of evaluation team concerns to demonstrate that it considered and addressed or mitigated these concerns. Finally, the university should enforce its policy that prohibits the use of sole-source contracts when multiple vendors or consultants are available and establish a policy for the use of its master agreements to require the solicitation of offers from at least three prequalified vendors or consultants.

University Action: Partial corrective action taken.

The university stated that it issued a bulletin reminding campuses to use the procurement process appropriate to the procurement objective. Additionally, it indicated that it modified existing policies to require the use of quantitative scoring to identify the best-value vendor. However, although previously the university stated that it would further review its procedures for the resolution and documentation of concerns arising during evaluation processes, its March 2004 update did not address this topic. Further, the university stated that it reissued its sole source policy and guidance to campuses and revised and reissued its policy and guidelines for master agreements requiring campuses to solicit at least three offers when using these agreements.

Finding #5: Data center services have improved, but data warehousing needs remain.

Unlike its procurement of the CMS software, the university did use recommended procurement practices to select the outsourced data processing services needed to run CMS. The university conveyed its needs to potential vendors, asking them to propose solutions. The university also used an objective selection process with weighted criteria to evaluate potential vendors. Further, the university shared risk with the vendor by establishing contract terms aimed at holding the vendor accountable for meeting preestablished service levels. When it experienced inadequate service from the data center in the early months of the contract, the university used the procedures outlined in the contract to help raise the data center services to agreed levels. The service levels have improved in recent months, with the vendor achieving or coming within one percentage point of achieving targets in the five months ending in November 2002.

Although the university worked to address its CMS data processing needs and is implementing more efficient means for reporting, it only now is starting to address campus CMS data storage and retrieval (data warehousing) needs. The outsourced data center processes CMS transactions, but is not designed for data warehousing. Data warehousing can provide for optimum data storage and reporting, such as enabling the production of reports that contain historical analysis of university operations. Largely because of concerns over CMS project resources, the university reportedly removed data warehousing from

the CMS project scope early in the project and made this important component a campus responsibility, not including the costs as part of its CMS project costs. Now, with some campuses expressing an interest in data warehousing services, the university is addressing the data warehousing needs for a voluntary consortium of campuses and expected to release its final version of the data warehousing model in early 2003.

To ensure it continues to receive improved service levels from the data center vendor, the university should continue to monitor and take action to resolve problems with the vendor. The university should also ensure that it provides campuses with the means to effectively and efficiently store and retrieve data needed for management reporting by expediting the CMS data warehousing project, and it should include the CMS-related costs of data warehousing in its CMS project costs.

University Action: Corrective action taken.

The university stated that it would continue to monitor and manage the performance of the CMS data center and take appropriate and prompt action to assure appropriate service levels. Further, it indicated that it is endorsing, on a provisional basis, data warehousing as core functionality within CMS, but that a final decision to include this CMS functionality is dependent upon the completion and evaluation of a feasibility study.

Finding #6: The university's oversight over potential conflicts of interest needs improvement.

The university did not do enough to detect or prevent conflicts of interest by decision makers for CMS-related procurements. It did not identify all necessary employee positions in its conflict-of-interest code as designated positions required to file annual statement of economic interest forms (Form 700s) and did not always retain and make available certain required filings of these forms. Additionally, the university did not require consultants on the project to file Form 700s, although they performed duties similar to employees in designated positions. Further, the university failed to provide for adequate disclosure processes to help ensure that individuals participating in the procurement process were free from conflicts. Also, it did not provide appropriate guidance to employees to identify potential conflicts using the Fair Political Practices Commission (FPPC) process

for determining conflicts. Finally, it lacks a policy that spells out for university employees what constitutes "incompatible activities," such as accepting anything of value from anyone seeking to do business with the university, and does not require that employees in designated positions receive regular ethics training.

Our review of Form 700s found an employee who appeared to have a conflict of interest while participating in the CMS software procurement decision and an employee who possibly may have used nonpublic information to benefit personally. Conflicts of interest cast a shadow over the university's reputation for fair and honest business practices and undermine public confidence in the university's procurement decisions. Moreover, if an employee uses information not available to the general public for personal financial gain, it not only harms the university's reputation but also is unlawful.

To ensure that the university takes appropriate action to prevent potential conflicts of interest in the future, the Legislature should consider requiring the university to provide periodic ethics training to designated university employees similar to that required by the Government Code for designated state employees. Additionally, the Legislature should consider requiring the university to establish an incompatible activities policy for university employees similar to that addressed in Government Code, Section 19990.

Similarly, the university should conduct periodic conflict-of-interest training, such as the ethics training required of state agencies for designated employees, and should establish an incompatible activities policy that it communicates to university employees. The university should also enhance its disclosure form to indicate what constitutes a conflict, identify all participating vendors, and state the prohibition of using nonpublic information to benefit personally; and it should require all employees to sign this form before participating in the procurement process. Additionally, the university should update its conflict-of-interest code to classify all positions responsible for evaluating or overseeing vendors or consultants and should require consultants that serve in a staff capacity and that participate or influence university decisions to file Form 700s. Further, university human resources staff should be reminded of their responsibility to collect, retain, and make available filed Form 700s for the required seven-year period. Finally, the university should remind its employees of the prohibition against using information not available to the public to benefit financially, and discipline infractions if necessary.

Legislative Action: Legislation passed.

In August 2004, Chapter 264, Statutes of 2004 (Assembly Bill 1969) was enacted. This legislation requires the university to offer designated employees ethics training on at least a semiannual basis.

University Action: Corrective action taken.

The university stated that it developed a comprehensive web-based conflict-of-interest and ethics training program for delivery to designated employees who would be tested to earn a certificate of completion. The training includes coverage of the FPPC eight-step process for assessing potential conflicts and employees' responsibility to seek the advice of counsel when questions exist. Additionally, the university stated that it presented a workshop in February 2003 to update university filing officers on the FPPC filing requirements and provided a session on conflict of interest at the systemwide human resources conference in October 2003. However, although the university previously stated that its counsel reviewed conflict-of-interest issues and would fully cooperate with any action taken by the FPPC, its March 2004 update did not address this topic. The university also indicated that it distributed a memorandum identifying key laws that govern the behavior and activities of university employees in areas of incompatible activities, conflict of interest, and ethics.

The university stated that it revised and reissued requirements for procurement disclosure forms and would require all employees to sign these forms before participating in the procurement process. The university reported that it also enhanced its procurement disclosure form to clearly indicate what constitutes a conflict of interest and stated that evaluators are prohibited from using nonpublic information to benefit personally. Further, the university stated that it would ensure that all participants understand the scope and nature of their commitments when participating in a procurement activity, and that, when possible, it would list on the disclosure form all vendors participating in the procurement. It also stated that it would continue to update its conflict-of-interest code and advised university officials to review carefully the existing designated position list to determine whether existing positions require incorporation, and in determining its designated positions, identify employees in positions responsible for evaluating and

overseeing vendors and contractors. It further indicated that it requires consultants to file Form 700s when they are hired to make or participate in making decisions that foreseeably will have a material effect in a university financial interest. The university reported that it reminded filing officers in February 2003 of the requirement to collect, retain, and make available for the required seven-year period the filed Form 700s and that it would repeat this reminder each year. Finally, the university indicated that the memorandum identifying key laws that it distributed addresses the prohibition against employees using information not available to the public to benefit financially and that it would inform current and future employees of these requirements.