

## UCSB AUDIT AND ADVISORY SERVICES

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May 12, 2011

To: James Speck, Chair  
Materials Department

Re: **Solid State Lighting and Energy Center**  
**Audit Report No. 08-11-00007**


As part of the 2010-11 annual audit plan, Audit and Advisory Services conducted an audit of the Solid State Lighting and Energy Center (SSLEC). Enclosed is the audit report detailing the results of our review.

The purpose of the review was to evaluate whether adequate internal controls have been implemented for SSLEC operational and financial management. The review included discussions with SSLEC staff, completion of internal control questionnaires, limited testing of procurement transactions during fiscal year 2009-10, and an evaluation of basic financial management practices. We also evaluated SSLEC equipment management practices by conducting a physical inventory of a sample of SSLEC equipment items, and reviewed the center's practices related to conflict of interest disclosures for faculty members involved with center management.

Based on the results of work performed within the scope of the review, we did not identify any significant deficiencies or material weaknesses in internal controls. However, our review did identify areas in which internal controls over SSLEC business practices could be strengthened. The more significant of these areas included implementing better segregation of duties for several SSLEC business processes, establishing committee charters for the SSLEC Executive Committee and Advisory Board, improving compliance with University travel and equipment management policies, and properly recording a significant loan of SSLEC funds to the College of Engineering.

We have included a copy of our detailed observations and management corrective actions. The management corrective actions provided indicate that each recommendation was given thoughtful consideration and that positive measures have been planned to implement the corrective actions. The cooperation and assistance provided by SSLEC staff during the review was sincerely appreciated. If you have any questions, please feel free to contact me.

Respectfully submitted,



Robert Tarsia  
Acting Director  
Audit and Advisory Services

Enclosure

cc: Chancellor Henry Yang  
Associate Vice Chancellor Ron Cortez  
UCSB Audit Committee  
Senior Vice President and Chief Compliance and Audit Officer Sheryl Vacca  
Executive Vice Chancellor Gene Lucas  
Acting Dean Larry Coldren  
Co-Director Steve DenBaars  
Co-Director Shuji Nakamura  
Financial Manager Tara Owens

**Solid State Lighting and Energy Center**

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**Performed by:**

Sam Hartline, Principal Auditor

**Approved by:**

Robert Tarsia, Acting Director

**UCSB Audit and Advisory Services  
Solid State Lighting and Energy Center  
Audit Report No. 08-11-00007**

**Purpose and Scope**

The purpose of the audit was to determine whether adequate internal controls have been implemented over operational and financial management of the Solid State Lighting and Energy Center (SSLEC) at the University of California, Santa Barbara (UCSB). The scope of the review included discussions with SSLEC staff, completion of internal control questionnaires, limited testing of procurement transactions during fiscal year 2009-10, and an evaluation of basic financial management practices. We also evaluated SSLEC equipment management practices by conducting a physical inventory of a sample of current SSLEC inventorial equipment items and reviewed the center's practices related to conflict of interest disclosures for faculty members involved with center management. Procedures and controls in the following areas were included in the scope of the audit:

- Personnel, Payroll, and Other Administrative Processes
- Procurement of Goods and Services
- Equipment Management
- General Financial Management, Including Overdraft Monitoring, Cash Management, etc.
- General Ledger Reconciliations
- Unrelated Business Income Assessment
- General Information Technology Controls
- Conflict of Interest Disclosures

**Background**

SSLEC was established in March 2007 to advance new semiconductor-based energy efficient lighting and display technologies through partnerships with key industry leaders. SSLEC is focused on semiconductor-based technologies for energy efficient lighting and displays, power electronics, and solar energy conversion; its primary objective is to provide a forum for industry members and UCSB faculty and student researchers to work in collaboration at the interface of several disciplines, including materials science, electrical engineering, chemistry, and physics, to address the most challenging problems in solid state lighting. SSLEC is organizationally structured under the Materials Department, and the Materials Department chair is a current member of the center's Executive Committee.

SSLEC is part of the Division of Academic Affairs, and the Materials Department chair reports through the acting dean of the College of Engineering to the Executive Vice Chancellor. Center oversight is provided by an Executive Committee composed of the acting dean of the College of Engineering, the SSLEC co-directors, the director of the UCSB Technology and Industry Alliances Office, the manager of SSLEC's intellectual property, and two UCSB faculty members with primary research interests linked to the SSLEC mission. One of the center co-directors serves as SSLEC's executive director for administrative purposes and the second co-director serves as the executive director of SSLEC research.

The UCSB Guidelines on the Offer of Memberships Associated with Centers provide the criteria under which recognized campus research centers can request authorization to offer membership packages to industrial sponsors when the sponsorship funds will not be classified as gifts or contracts or grants, and will provide a limited benefit back to the sponsors. The document also includes general procedural requirements for centers that have been approved to offer membership as part of a support package. The guidelines were issued on March 17, 2004.

SSLEC's industry members provide unrestricted support for the center's research efforts, participate in an annual conference hosted by the center, evaluate patents that are developed during the period in which the industry members maintain current status as a qualified sponsor, and designate one sponsor employee who serves on the SSLEC Advisory Board. The Advisory Board meets once a year during an annual SSLEC conference; its role is to provide guidance on matters identified by the Executive Committee, including general research topics, on an as-needed basis. Each industry member also has the ability to send a visiting researcher to the center for collaboration in the advancement of SSLEC research. It is anticipated that each industry member will provide a cumulative support package of up to \$2.5 million through December 31, 2013, thus allowing SSLEC faculty, staff, and students to interact closely with the sponsors in maximizing research for the benefit of all involved parties.

The SSLEC financial manager supervises three administrative staff and is responsible for providing high-level management support in the areas of budget, financial reporting, staff personnel, equipment and facilities, space, and website development. The SSLEC corporate programs manager is the industry member liaison and is responsible for correspondence with sponsors, gift processing management, annual pledge payments, visiting researcher coordination, and organization of the SSLEC annual conference. The financial manager and corporate programs manager report directly to the SSLEC co-director responsible for center administration.

### **Summary Opinion**

Based on the results of work performed within the scope of the review, we determined that SSLEC has established generally adequate internal controls over operational and financial management of the center, and our review did not identify any significant deficiencies or material weaknesses in internal controls. We observed that the financial manager had been working diligently to implement appropriate practices and procedures to ensure compliance with University policies, procedures, and business practices.

However, our review did identify areas in which internal controls over SSLEC business practices could be strengthened. The more significant of these areas include implementing better segregation of duties

UCSB Audit and Advisory Services  
Solid State Lighting and Energy Center

for several SSLEC business processes, establishing committee charters for the SSLEC Executive Committee and Advisory Board, improving compliance with University travel and equipment management policies, and properly recording in the general ledger a significant loan of SSLEC funds to the College of Engineering.

These and other audit observations and management corrective actions are detailed in the remainder of the audit report.

## **Detailed Observations and Management Corrective Actions**

### **A. Center Administration and Personnel Management**

We reviewed SSLEC administrative and personnel management procedures and controls for compliance with University policies and procedures and to determine whether existing controls were conducive to the accomplishment of organizational objectives. In general, adequate administrative and personnel management controls appeared to be in place and operating effectively, except in the following cases:

#### **1. Executive and Advisory Committee Charters**

The audit noted that committee charters had not been established for the SSLEC Executive Committee, or the sponsoring member Advisory Board, that clearly delineate the roles and responsibilities of each group. Committee charters that clearly outline the authority and responsibilities of both the SSLEC Executive Committee and Advisory Board should be established to ensure that decisions regarding significant business matters are properly authorized and documented, and to help protect the interests of all parties. Significant center administrative matters that are reviewed, presented, and/or discussed with these groups should be adequately documented in accordance with the respective charter.

#### **Management Corrective Actions**

The Solid State Lighting & Energy Center will establish a charter for the Executive Committee to include with its approved center description. We will also more clearly identify the purpose of the advisory board as only having the ability to provide research-related advice to the Executive Committee. This will be completed by June 30, 2011.

#### **2. Employee Job Performance Evaluations**

We determined that the job performance of certain SSLEC administrative staff members was not being evaluated on an annual basis, as required by University personnel policy. Employee job performance evaluations had not been performed for the financial manager or the corporate programs manager for several years. Performance evaluations should be performed for all SSLEC administrative staff members on an annual basis, as required by University personnel policy.

#### **Management Corrective Actions**

Employee evaluations for the Financial Manager and the Corporate Programs Manager will be completed by the SSLEC Director (Steve DenBaars) by October 1, 2011.

B. Payroll Management

The audit reviewed SSLEC payroll processing procedures and evaluated the adequacy of internal controls. We found that SSLEC payroll processing functions had not been adequately separated for internal control purposes. The administrative assistant, who reports to the financial manager, had been assigned responsibility for:

- Serving as the back-up for updating the Payroll Personnel System (PPS) and online time reporting systems.
- Reconciling the monthly Distribution of Payroll Expense Report (DPER).
- Distributing employee payroll checks.
- Serving as the alternate for maintenance of employee leave and time worked records.

The financial manager was performing oversight of these functions by serving as the reviewer of PPS update notices (Personnel Action Notices, or PANs) and by reviewing and approving the monthly reconciliation of the DPER. However, to enhance internal control over payroll processing, the duties assigned to the administrative assistant should be separated further to reduce the possibility that potential errors or wrongful acts could go undetected.

The audit also found that controls over the financial manager's leave reporting were not adequate. The financial manager was performing the following payroll processing functions for all center staff:

- Updating the on-line leave reporting system.
- Maintaining employee leave records.
- Reviewing and approving the monthly Time/Benefits Roster (TBR).

Because the financial manager was performing these functions for her own leave records, there was inadequate control over her leave reporting.

The functions of serving as the alternate for maintenance of leave and time worked records and for distribution of employee payroll checks should be assigned to another SSLEC employee not otherwise involved in payroll processing. Also, either the function of on-line leave reporting system updates, or review and approval of the monthly TBR, should be assigned to another appropriate employee. If appropriate segregation of duties can't be established due to the small size of SSLEC's administrative staff, review and approval of the financial manager's leave and accumulated balances (as reported on the monthly TBR) should be performed by an appropriate level of management.

Management Corrective Actions

Although SSLEC has not received an employee payroll check for distribution, if we do in the future, it will be handled and distributed by the Materials Department's front desk assistant in



order to ensure separation of duties. In regards to the monthly Time Benefits Roster, during the course of the audit and beginning with January 2011, the Materials Department MSO began reviewing and approving the TBR in order to ensure audit compliancy and separation of duties.

Audit and Advisory Services staff will follow up on this management corrective action by June 30, 2011 to ensure it has been implemented.

C. Procurement

The audit reviewed controls in place over SSLEC procurement to determine whether procurement activities were properly controlled, accounted for, and performed in compliance with University purchasing policies and corporate sponsor intent. We also performed limited audit testing for a sample of ten SSLEC expenditures during FY 2009-10, and found the following:

1. Separation of Procurement Functions

SSLEC procurement processing functions had not been adequately separated for internal control purposes. The administrative assistant had been assigned responsibility for:

- Placing low-value purchase orders.
- Receiving goods.
- Reconciling the monthly general ledger reports.

This assignment of procurement duties does not provide a proper level of control to prevent potential errors and wrongful acts.

The financial manager was performing oversight of these functions by reviewing and approving the monthly reconciliation of the general ledger reports, and reviewing vendor invoices for clerical accuracy, compliance with purchase terms, and proper account distribution prior to approval.

SSLEC has a small administrative staff size that makes it difficult to fully separate all key procurement processing functions. Although the oversight functions performed by the financial manager provide effective mitigating controls, the procurement duties of the administrative assistant should be separated further, to the extent possible, to achieve improved control. It appears that the least disruptive function to reassign would be the receiving function for materials ordered.

Management Corrective Actions

During the course of the audit, the receiving function was reassigned to the SSLEC Computer & Network Technologist, who now verifies the receipt of goods. In the event the goods were ordered by the Computer & Network Technologist or the Financial Manager, the Corporate Affairs Manager will perform this function in order to provide a proper level of control.

Audit and Advisory Services staff will follow up on this management corrective action by June 30, 2011, to ensure it has been implemented.

2. Travel Policy Compliance

Three of ten travel transactions tested were found to be out of compliance with airfare restrictions included in UC Business and Finance Bulletin G-28: Policy and Regulations Governing Travel (G-28). The SSLEC travelers in all three travel transactions used business class airfare for most of the flight segments of their trips. G-28 requires that coach class or any discounted class be used in the interest of economy, and the policy applies to all travel, domestic or foreign, regardless of the purpose or fund source.

In one of the three cases, an SSLEC sponsoring member reimbursed the University after the fact for the cost of the business class airfare. G-28 requires that travel costs not be charged or billed to a University account in those cases in which the employee is traveling under the sponsorship of a non-University entity. Additionally, in these situations, the policy requires that airline tickets be obtained directly from the sponsor.

Two travel transactions reviewed were found to be out of compliance with sound business practice and an additional requirement of UC Business and Finance Bulletin G-28. The travel expense vouchers for the two transactions were for separate business trips made by the two center co-directors, and the vouchers were both approved by the financial manager. G-28 prohibits approval of travel expense vouchers by a person who reports directly or indirectly to the traveler. The financial manager reports directly to one SSLEC co-director and indirectly to the other co-director.

SSLEC needs to improve its travel practices to comply with University policy. If an arrangement is made for an SSLEC traveler's business or first class airfare costs to be reimbursed by an external sponsor, the airfare should be purchased directly by the sponsor prior to the trip, in accordance with University travel policy. Also, travel expense vouchers should be approved by the appropriate level of management. It appears that the most

appropriate individual to approve the center co-directors' travel vouchers is the Materials Department chair.

#### Management Corrective Actions

During the course of the audit, SSLEC administrative staff took action to ensure compliancy with all travel policies. Business class airfare will no longer be purchased without an approved exception. Also, If any travel is to be paid for by an external sponsor, that external sponsor will either purchase the applicable travel expense directly or the traveler will purchase the travel expense using personal (non-UC funds) and then obtain reimbursement directly from the external sponsor. Additionally, all travel for the SSLEC Co-directors will be approved by the Materials Department chair prior to being approved/released by the financial manager in order to comply with G-28.

Audit and Advisory Services staff will follow up on this management corrective action by June 30, 2011 to ensure it has been implemented.

#### D. Equipment Management

The audit reviewed controls in place over SSLEC equipment management functions (e.g., record-keeping, inventory, authorization, and disposal) to determine their adequacy. We also performed a physical inventory of a sample of ten SSLEC inventorial equipment items from the Capital Asset Tracking System (CATS) to test whether items were located as recorded in CATS, properly tagged, and listed with accurate identifying information (including manufacturer, model and serial numbers). We also assessed whether the equipment items sampled appeared to be operable, currently utilized by SSLEC, and subject to an appropriate level of physical security. We found the following:

##### 1. Separation of Equipment Management Functions

SSLEC inventorial equipment management functions were not adequately separated for internal control purposes. The SSLEC development engineer had been assigned responsibility for:

- Receiving and tagging equipment.
- Performing equipment custodian duties.
- Maintaining equipment records.
- Performing the physical inventory of equipment.

The current assignment of duties is not sufficient to aid in the prevention or detection of errors or wrongdoing associated with SSLEC's inventorial equipment and related inventory records.

To improve internal controls over SSLEC management of inventorial equipment, duties assigned to the development engineer should be separated further. It appears that the least disruptive solution would be for management to assign responsibility for performance of the physical inventory of equipment to a staff member with no conflicting equipment management functions.

#### Management Corrective Actions

Any future performance of the physical inventory of SSLEC equipment will be conducted by the financial manager in order to improve internal controls over SSLEC management of inventorial equipment. This is effective immediately.

Audit and Advisory Services staff will follow up on this management corrective action by December 31, 2011, to ensure it has been implemented.

#### 2. Equipment Management Practices

Nine of the ten inventorial equipment items selected for testing were physically located as indicated in the CATS system and listed with accurate identifying information. The nine equipment items appeared to be operable, currently used by SSLEC, and subject to an appropriate level of physical security. However, the audit found that:

- One of the ten equipment items could not be located. An SSLEC researcher stated that the equipment item, with an original asset value of \$194,725, had been declared inoperable due to safety concerns and was currently in storage and being used for parts. However, an Equipment Inventory Modification Request (EIMR) had not been approved and submitted to Equipment Management to report the current condition and status of the item.
- Two other equipment items in the sample had not been appropriately tagged, and a third sampled equipment item had the wrong equipment ID tag attached to it. The incorrect equipment ID tag was for a similar equipment item that also belonged to SSLEC, and the equipment custodian indicated that the tag for this piece of equipment was likely switched with the tag of the similar equipment item tested.

The SSLEC financial manager took steps, during the course of the audit, to correct all of the above findings that resulted from the equipment physical inventory test.

SSLEC should strengthen its controls to ensure that all inventorial equipment is properly accounted for. University property ID tags should be appropriately affixed to all inventorial equipment items at the time they are received, and physical inventories of equipment should be taken at least every two years, as required by campus policies and procedures.

Additionally, EIMRs should be prepared, appropriately approved, and submitted to Equipment Management to report the current condition and status of inventorial equipment items that have been declared inoperable or obsolete and are being used for parts.

Management Corrective Actions

The SSLEC financial manager will conduct any future performance of the physical inventory of SSLEC equipment in order to improve internal controls over SSLEC management of inventorial equipment.

Audit and Advisory Services staff will follow-up on this management corrective action by December 31, 2011, to ensure it has been implemented.

E. Financial Management

The audit assessed whether SSLEC had adequate accounting and budgetary monitoring procedures and controls in place to ensure that financial records and reports were complete, accurate, and appropriately maintained. Additionally, we reviewed SSLEC general ledger account reconciliations prepared for a sample month during FY 09-10, and performed a review of SSLEC general ledger accounts in overdraft status at June 30, 2010, that remained in overdraft at December 31, 2010, in order to evaluate SSLEC procedures for monitoring general ledger account activity and promptly clearing account overdrafts. We also verified whether an assessment had been performed to determine if unrelated business income was being generated through SSLEC's collection of sponsor membership fees. We found the following:

1. General Ledger Reconciliation

SSLEC general ledger account reconciliations were timely and appropriately performed, documented, reviewed, and approved.

2. Monitoring of Overdrafts

At December 31, 2010, six SSLEC general ledger account funds had been in overdraft status since June 30, 2010. The balances of the two SSLEC general ledger accounts containing these funds, however, were in surplus status at June 30, 2010, and December 31, 2010. The financial manager had established adequate practices to ensure that SSLEC general ledger account balances remained in surplus status at all times.

The fund overdrafts were discussed with the General Accounting unit in Accounting Services and Controls. Since all SSLEC funds were given by the corporate member sponsors for the same purpose (i.e., to support SSLEC research and infrastructure), overdrafts in certain funds within the same account are not a concern, according to General

Accounting, as long as the surpluses in the remaining account funds adequately cover the overdrafts and the account balance remains in surplus at fiscal year end.

3. Loan to the College of Engineering

The audit found that a \$2.0 million loan to the College of Engineering (COE) was not properly recorded in UCSB's accounting records, and had not been reviewed and approved at an appropriate level of campus administration.

In April 2008, through a documented arrangement approved by the dean of the College of Engineering and the SSLEC co-director for administration, a \$2 million loan of SSLEC operating funds was made to COE for building an addition of office space to the Engineering II building. All of SSLEC's administrative office space (for staff, faculty, and researchers) is currently located on the third floor of the building addition. The loan was granted in support of SSLEC's infrastructure, and therefore appeared to be an acceptable use of SSLEC sponsorship funds that was within donor intent. It is our understanding that the SSLEC Executive Committee was consulted regarding the loan to the COE before it was granted, and that the SSLEC Advisory Board was apprised of the general circumstances of the loan as well.

A loan repayment schedule was established as part of the arrangement that included plans for the COE to repay the loan, in full, by June 30, 2015. At the time of the audit, the COE had been making regular payments to SSLEC in accordance with the repayment schedule, and a total of approximately \$550,000 of the loan had been repaid.

The \$2.0 million loan to COE was not properly recorded in UCSB's accounting records. Through discussion with Accounting Services and Controls, it was determined that, for a transaction of this significance, a receivable entry for SSLEC, and a corresponding payable entry for the COE, should be recorded in the campus general ledger. SSLEC management should consult with Accounting Services and Controls to ensure that appropriate general ledger transactions to reflect the loan are completed.

Also, in the absence of definitive UC policy guidance on the level(s) of review and authorization required for inter-departmental loans, in most cases campus best practices for substantial financial transactions would require review and approval by the department and division heads. Therefore, in order to ensure the propriety of any future SSLEC financial transactions of this size that are not specifically governed by other formal delegations of authority, it would be prudent to have the proposed transaction reviewed and approved by

the chair of the Materials Department and the Executive Vice Chancellor. Subsequent to the audit, SSLEC management obtained retroactive approval of the loan from the Materials Department chair.

Management Corrective Actions

The financial manager will consult with General Accounting to determine the appropriate general ledger transaction necessary to record the loan at the beginning of fiscal year 2011-12. If feasible, we plan to process the ledger transaction by August 15, 2011.

Any future transactions of this size will receive documented approval from the Chair and the EVC.

4. Unrelated Business Income Assessment

Unrelated business income (UBI) is gross income derived from any trade or business activity that is regularly conducted by the University and is not substantially related to the University's tax exempt purpose. The University is subject to federal income tax on the sales income generated by business activities that have been identified as unrelated. All campus activities with a potential for generating UBI are required to submit a non-financial questionnaire to Accounting Services and Controls. The information provided in the questionnaire is evaluated in determining whether the income generated should be considered unrelated.

The general procedural requirements of the UCSB Guidelines on the Offer of Memberships Associated with Centers requires centers to file a non-financial questionnaire with Accounting Services and Controls as a part of determining whether the center generates UBI through its acceptance of membership payments from external corporations. SSLEC properly prepared and submitted a non-financial questionnaire in December 2008, and it was determined that SSLEC sponsor membership fees did not constitute unrelated business income.

F. Cash Management

We evaluated internal controls in place to ensure that cash collections are properly accounted for, safeguarded, and deposited. SSLEC member sponsor payments are deposited directly to University accounts via wire transfers processed through Accounting Services and Controls and Development's Gift Administration unit. However, SSLEC collects approximately \$3,000 per year in payments for corporate sponsor guests attending its annual conference at UCSB. A

cost-recovery fee of \$150 per guest is charged to corporate sponsors, and most of the fee payments are collected at the conference site.

We found that SSLEC cash collection functions had not been adequately separated for internal control purposes because the corporate affairs manager was performing the functions of receiving and recording cash collections, and balancing daily cash receipts to SSLEC conference cash records and receipts. Management should take steps to mitigate the control weakness caused by the lack of appropriate segregation of duties for cash collection functions. The least operationally disruptive solution may be for the financial manager to perform an "auditor" function over the cash receipting duties of the corporate affairs manager by ensuring that numerical control of cash receipts has been maintained, and performing a review to ensure that there is agreement between the conference fee payment records and deposits.

#### Management Corrective Actions

The financial manager will perform oversight and an audit of the cash collection functions performed by the corporate affairs manager to ensure there are no discrepancies between the payment records and actual deposits. This will be completed by the end of the next SSLEC conference on November 4th, 2011.

#### G. Information Technology

We performed a review to evaluate the adequacy of general information technology (IT) controls at SSLEC, including areas such as management of IT, physical and logical security, and backup and recovery practices for the center's computer systems. SSLEC appeared to have sufficient IT controls in place to adequately protect the center's computer systems and data files.

#### H. Conflict of Interest Disclosure

We reviewed SSLEC's Conflict of Interest (COI) disclosure practices for compliance with UC COI policies and the UCSB Guidelines on the Offer of Memberships Associated with Centers. The guidelines state: "The State COI process (700-U) must be followed for each support package received by the Center. The PI's shall be considered to be the Director of the Center and other senior administration of the center, if any. The COI Coordinator shall be available to assist the centers in designing membership benefits that manage any COI issues."

By the time of the audit, disclosures had been made by both of the SSLEC co-directors regarding potential COI issues with all twelve SSLEC corporate member sponsors, thereby satisfying the COI disclosure requirements of the guidelines.