UCSB Audit and Advisory Services

Internal Audit Report

**California NanoSystems Institute**

November 24, 2015

**Performed by:**
Amin Berrah, Senior Auditor

**Approved by:**
Robert Tarsia, Director

Report No. 08-16-0003

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University of California, Santa Barbara

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November 24, 2015

To:     Craig Hawker, Director
        Holly Woo, Associate Director
        California NanoSystems Institute

Re:     **California NanoSystems Institute**
        **Audit Report No. 08-16-0003**

As part of the 2015-16 annual audit services plan, Audit and Advisory Services has completed an audit of the California NanoSystems Institute (CNSI). Enclosed is the report detailing the results of our work.

The purpose of the audit was to evaluate sponsored projects administration and certain other key business practices. We also performed a limited review of select information technology processes and controls.

Based on the results of the work performed within the scope of the audit, CNSI has established effective internal controls related to sponsored projects administration, and charges costs to awards consistent with key federal requirements and University policies.  Our review did identify opportunities to enhance some information technology practices, ensure that recharge rates charged by the department are current, and to better document some department procedures.

We greatly appreciated the assistance on this project provided by CNSI personnel. If you have any questions, please contact me.


Respectfully submitted,


Robert Tarsia
Director
Audit and Advisory Services


Enclosure

cc: Chancellor Henry Yang
    Vice Chancellor Administrative Services Marc Fisher
    Vice Chancellor for Research Michael Witherell
    Assistant Vice Chancellor for Research Karen Hanson
    Javier Read de Alaniz, Associate Director, CNSI
    Megan Valentine, Associate Director, CNSI
    Stephen Wilson, Associate Director, CNSI
    UCSB Audit Committee
    Senior Vice President and Chief Compliance and Audit Officer Sheryl Vacca

**PURPOSE**

The purpose of the audit was to evaluate sponsored projects administration and certain other key business practices of the California NanoSystems Institute (CNSI). We also performed a limited review of select information technology (IT) processes and controls. This audit is part of the fiscal year 2015-16 audit services plan of the University of California, Santa Barbara (UCSB).

**SCOPE, OBJECTIVES AND METHODOLOGY**

The scope of our audit included essential CNSI business and administrative practices, with a focus on compliance with key federal requirements and University policies related to sponsored projects. Our review focused on awards active during fiscal years 2013-14 and 2014-15.

The objectives of this review were to determine whether:

- Sponsored projects administration practices are appropriate, including evaluating whether:

    o Direct costs charged to sponsored projects were allowable, allocable, and reasonable.
    o Effort reporting data was submitted in a timely manner, and certified by the principal investigator.
    o Cost transfers were timely, properly supported, properly approved, and otherwise in compliance with award terms and University of California (UC) and UCSB policies and procedures.
    o Required technical, patent, and financial reports were timely submitted.
    o CNSI procedures comply with export control regulations (as applicable).

- Department recordkeeping practices comply with UC record retention policies.

We also performed a limited review of select IT processes and controls, including certain information security practices, and reviewed recharge rates charged by CNSI to determine if they were current (updated, reviewed, and approved within the timeframe required by campus policy).

Our preliminary work emphasized:

- Gaining an understanding of CNSI operations through interviews with key personnel and review of the department's business processes and internal controls.

- Gaining and documenting an understanding of critical compliance requirements relevant to the scope of the audit, including applicable laws, regulations, policies, and procedures.

- Reviewing other audits and reviews relevant to this audit, including work by UCSB Audit and Advisory Services and other UC campuses.

Our audit fieldwork included:

- Evaluating CNSI sponsored project administration practices by testing a sample of 25 transactions from five awards for compliance with award terms, federal requirements, and University policies and procedures.

- Evaluating CNSI record retention procedures for compliance with UC policies.

This audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing.*


## BACKGROUND[1]

CNSI is an integrated research facility with locations at UCSB and UCLA. Its mission is to encourage university collaboration with industry and to enable the rapid commercialization of discoveries in nanoscience and nanotechnology. CNSI members represent a multi-disciplinary team of scientists from the life and physical sciences, engineering, and medicine. The work conducted at CNSI represents world-class expertise in four targeted areas of nanosystems-related research, including energy, environment, health-medicine, and information technology.

In 2015, CNSI created its Small Business Incubator, designed to promote CNSI's mission of bringing scientific and technological innovation into the economy and society and enable greater ties between the CNSI academic community and industry. Up to 610 square feet of specialized laboratory space is available for lease by UCSB-affiliated start-ups. CNSI also provides funding opportunities to support nanoscience research, including challenge grants, equipment matching funds, and the Elings Prize Fellowships in Experimental Science. According to CNSI, the department has 24.5 FTE positions.

CNSI is funded from a variety of sources, including allocations from state funds, gift funds, equipment usage recharges, and research contracts and grants from various sponsors. Table 1 summarizes the value of new and incremental award funding from various sponsors for the past three fiscal years.

| Table 1 | CNSI Sponsored Projects: New and Incremental Award Funding |
|---------|------------------------------------------------------------|
| **Fiscal Year** | **Award Amounts** |
| 2012-13 | $12,163,110 |
| 2013-14 | $10,244,372 |
| 2014-15 | $10,113,717 |

Source: ORBiT, the Office of Research's contract and grant electronic database.

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[1] Source: Department website.

*Relevant Policies*

Laws, regulations, policies, and procedures considered most relevant to the scope of this audit include:

- The *UC Contracts and Grants Manual*, which provides guidance on policies for the solicitation, acceptance or execution, and administration of contracts and awards from extramural sponsors.

- *UCSB Income and Recharge Guidelines*, which require the annual review and approval of recharge rates for goods and services provided that are not "core funded," and for which costs must be recouped in accordance with federal and University policies.

- UC BFB IS-2, *Inventory, Classification, and Release of University Electronic Information* (Policy IS-2), which establishes guidelines for the classification of information assets, and outlines UC policy regarding access to, release, and disclosure of University information.

- UC BFB IS-3*, Electronic Information Security* (Policy IS-3), which establishes guidelines for protection of University electronic information resources and for identifying related roles and responsibilities.

- UC BFB IS-12, *Continuity Planning and Disaster Recovery* (Policy IS-12), which provides recommendations and guidelines for information technology continuity planning and disaster recovery activities.

- UCSB *Guidelines Concerning Click-Through Agreements*, issued in June 2015, which provide guidance to the UCSB campus related to the use of non-UC technology services, which are defined in the guidelines as "computer-related services offered online, often for free or at low cost, for which there is no UCSB or UC system-wide agreement."

## SUMMARY OPINION

Based on the results of the work performed within the scope of the audit, CNSI has established effective internal controls related to sponsored projects administration, and charges costs to awards consistent with key federal requirements and University policies. Our review did identify opportunities to enhance some information technology practices, ensure that recharge rates charged by the department are current, and to better document some department procedures.

## DETAILED OBSERVATIONS AND MANAGEMENT CORRECTIVE ACTIONS

### A. Enhance Some IT Security Practices

As part of our preliminary survey, we performed a limited review of select CNSI Information Technology processes and controls, including some information security practices, access controls, and business continuity planning. Our work identified opportunities to enhance some processes and better comply with UC policies:

- Use of Non-UC Technology Services – CNSI uses a cloud-based storage and collaboration tool from a provider with which neither UC nor UCSB have a contract. Non-UC technology services typically require acceptance of "click-through" agreements that have not been reviewed by the UC Office of the General Counsel, and that pose security and privacy risks, including the risk that restricted and/or confidential[2] information could be compromised, the possibility of export control issues if information subject to export controls is stored on overseas servers, limitations on vendor liability in the case of a data breach, and other risks. The UCSB guidelines issued in June 2015 discourage the use of non-UC technology services, and the campus recently announced a new agreement with Box.com to provide a secure, cloud-based sharing and storage service, named Connect Box, at no charge to departments.

- Risk Assessment of Information Security – CNSI has not documented a risk assessment or information security plan that takes into consideration the acceptable level of risk for systems or processes, as required by Policy IS-3. CNSI IT staff is currently unsure of what type of data is maintained on department computers and external hard drives connected to employee workstations.

- Access Controls – CNSI does not document periodic reviews of user roles and privileges to determine whether access authorizations are limited to the least permission necessary for the performance of job duties, as required by Policy IS-3.

- Business Continuity and Disaster Recovery Plan – The department has not documented a business impact analysis or an IT recovery plan, as required by Policy IS-12. This policy requires performing risk assessments and business impact analyses "to identify all critical functions of the organization or unit and their supporting information systems, and that the "impact of loss or disruption of functions should be identified, evaluated, and categorized according to the time frames required for recovery of each function."

We recommend that CNSI:

- Utilize the Connect Box service or another UC-approved provider with whom there is a service contract.

- Perform a risk assessment that evaluates what data is currently stored on department computers, and document a security plan that takes into consideration the acceptable level of risk for systems or processes, as required by Policy IS-3.

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[2] Policy IS-2 defines restricted information as "any confidential or personal information that is protected by law or policy that requires the highest level of security protection, whether in storage or in transit." Confidential information is defined as "information for which unauthorized access to or disclosure could result in a serious adverse effect, cause financial loss, cause damage to the University's reputation and loss of confidence or public standing, or adversely affect a partner."

- Implement a procedure to document the periodic review of user roles and privileges to determine whether access authorizations are limited to the least permission necessary for the performance of job duties, as required by Policy IS-3.

- Document a business impact analysis and IT recovery plan.

**Management Corrective Actions**

CNSI will:

- Utilize the Connect Box service or another UC-approved provider with whom there is a service contract.

- Perform a risk assessment that evaluates what data is currently stored on department computers, and document a security plan that takes into consideration the acceptable level of risk for systems or processes, as required by Policy IS-3.

- Implement a procedure to document the periodic review of user roles and privileges to determine whether access authorizations are limited to the least permission necessary for the performance of job duties, as required by Policy IS-3.

- Document a business impact analysis and IT recovery plan.

*Audit and Advisory Services will follow up on the status of this management action plan by June 30, 2016.*

### B. Ensure that Recharge Rates Are Reviewed and Approved Annually

Our review of CNSI recharge rate procedures found that only one of six recharge rates used to charge for various services had been approved by the Income and Recharge Committee in the past twelve months. The UCSB Income and Recharge Guidelines require recharge centers to submit a rate revision packet by April 15 annually for approval by the Income and Recharge Committee. Recharge rates are intended to recoup the service provider's costs related to goods or services furnished, and recharge centers are to operate on a "no-gain/no-loss" basis. Annual review of recharge rates is needed to ensure that rates reflect actual costs, and that recharge centers do not operate at a deficit or surplus, which could adversely affect compliance with federal sponsored project requirements.

We recommend that CNSI ensure that all recharge rates are submitted annually for review and approval.

**Management Corrective Actions**

CNSI will ensure that all recharge rates are submitted annually for review and approval.

*Audit and Advisory Services will follow up on the status of this management action plan by May 31, 2016.*

| Table 2 | CNSI Recharge Rates | |
|---|---|---|
| **Recharge Center** | | **Last Updated / Approved** |
| CNSI Building Services | | October 2008 |
| CNSI IT Services | | April 2010 |
| Cleanroom (NCF) Facility | | August 2014 |
| Microfluidics Lab Facility | | August 2014 |
| Biological Nanostructures Lab | | November 2014 |
| Low-Temperature Characterization Facility | | February 2015 |

Source: Auditor analysis of documentation submitted by CNSI.

### C. Improve Certain Sponsored Award Procedures

Our review of costs charged to sponsored projects found that costs were allowable, allocable, and reasonable. We did find that the department could modify certain processes to increase assurance that procedures comply with federal regulations and prudent business practices:

- Our review of information maintained in ORBiT, the Office of Research's contract and grant electronic database, found that six CNSI-managed projects had overdue final technical, patent, or equipment reports (or a combination of the three) at the start of our audit period. As of November 1, 2015, these reports were listed as being between 274 and 2,126 days overdue. According to CNSI, these reports were submitted by the principal investigators, but the information in ORBiT was not updated accordingly.

- Recharge invoices from other departments for costs charged to CNSI-managed awards do not always include sufficient detail, such as hours and rates, to verify that the amounts charged are correct.

- A limited number of charges to federal awards are not fully consistent with published or established departmental procedures, as required. For example, the department is not currently monitoring the hours of interns in an internship program, despite an assertion on the CNSI website that intern stipends are paid based on 35-hour weeks for eight weeks. Similarly, a CNSI procedure states that, absent a prior approval by the principal investigator, travel expense vouchers should be approved by the responsible principal investigator. We selected one travel expense voucher for testing, and found that it was not signed by the traveler (a University employee) or the principal investigator.[3]

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[3] The Domestic Travel Reimbursement Worksheet, a campus form that includes daily expense detail, was signed.

We recommend that CNSI:

- Adequately monitor sponsored project reporting requirements, so that all required reports are timely submitted and that related data in ORBiT is current and correct.

- Ensure that recharge invoices from other departments include sufficient detail, such as hours and rates, to properly verify that amounts charged are correct.

- Ensure consistency of all charges to federal awards and the related published departmental procedures.

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**Management Corrective Actions**

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CNSI will:

- Adequately monitor sponsored project reporting requirements, and ensure that all required reports are timely submitted and that related data in ORBiT is current and correct.

- Ensure that recharge invoices from other departments include sufficient detail, such as hours and rates, to properly verify that amounts charged are correct.

- Ensure consistency of all charges to federal awards and the related published departmental procedures.

*Audit and Advisory Services will follow up on the status of this management action plan by May 31, 2016.*


### D. Document Departmental Procedures for Critical Processes

More formalized, written procedures addressing key departmental business processes would help CNSI ensure compliance with applicable policies and procedures and sound business practices. Areas that would benefit include:

- *IT Controls* – Including information on assigning system roles and privileges, limiting access to restricted data, and implementing the disaster recovery plan.

- *Sponsored Project Award Monitoring* – Monitoring and approval of project costs, reporting requirements, award proposals, and record retention.

- *Key Departmental Business* Processes – Procurement, travel reimbursement, annual submittal of recharge rate packets, record retention policies, etc.

We recommend that CNSI document key departmental procedures into a desk manual for use in training and everyday operations.

<div style="background-color:yellow;">**Management Corrective Actions**</div>

CNSI will document key departmental procedures into a desk manual for use in training and everyday operations.

*Audit and Advisory Services will follow up on the status of this management action plan by June 30, 2016.*

### E. Review Record Retention Practices

We reviewed CNSI record retention practices at the request of the CNSI Director. As part of this review, we obtained a listing of documentation currently stored by the department, and in consultation with Business and Financial Services, determined whether the department is the office of record for each type of record. The results of our work are summarized in the Appendix to this report.

Although record retention is generally associated with the ability to produce documents when requested by regulatory authorities or business partners, retaining records for an excessive amount of time, or retaining records not required by policy, can result in the department incurring unnecessary costs, pose litigation risks, and risk the exposure of restricted information.

We recommend that CNSI consult with Business and Financial Services and the Office of Research to ensure that record retention practices are appropriate and in compliance with UC and UCSB policies and procedures, and make adjustments, as necessary.

<div style="background-color:yellow;">**Management Corrective Actions**</div>

CNSI will consult with Business and Financial Services and the Office of Research to ensure that record retention practices are appropriate and in compliance with UC and UCSB policies and procedures, and make adjustments, as necessary.

*Audit and Advisory Services will follow up on the status of this management action plan by May 31, 2016.*

| Appendix | Review of Records Retention Office of Record Information | |
|---|---|---|
| **Function** | **CNSI Description** | **Office of Record / Disposition** |
| Payroll / Financial<br><br>Contracts & Grants | • Timecard copies for each pay period<br>• Summer salary documentation<br>• Leave reporting (summary of leave taken)<br>• Changes to appointments (FTE %, salary, funding source)<br>• LXRX Form (late payment, reversing entries)<br>• Monthly financial reports for current, closed, and archived accounts<br>• Non-Payroll Transfer details (including form, ledger, copies of relevant invoices/receipts)<br>• Closing memo documents (copy 1 and 2)<br>• Pass-through transaction details (including Non-Payroll Transfer form, transaction invoice copies, recharge expenses, ledgers) | Department |
| Payroll / Financial<br><br>Contracts & Grants | • Reimbursements for entertainment<br>• Reimbursements for travel<br>• Reimbursements for supplies<br>• Vendor Blanket details<br>• Purchase Order details<br>• Effort reporting (copy 1 and copy 2)<br>• Stipends paid via Form-5 (copy 1 and copy 2)<br>• Payroll rosters & checklist for each pay period, with timecard copies<br>• UPAY transfers between accounts for payroll after the fact (includes UPAY, pages from ledger, emails) | Business and Financial Services |
| Financial | • All financial transactions for matching funds (449007-xxxxx)<br>• All financial transactions for gift funds (447830-xxxxx)<br>• All financial transactions for administrative/state funds (447810-xxxxx)<br>• Recharge income data for CNSI facilities (including usage details and financial journals) | Varies according to circumstances; consult with Business and Financial Services |
| Contracts & Grants | • Package pickup signature sheets<br>• FlexCard details (including summary, Gateway form, invoices, quotes, packing slips, correspondence)<br>• FedEx expense details (including FlexCard form, Gateway summary) | Varies according to circumstances; consult with Business and Financial Services |
| Payroll | Payroll summary spreadsheet | Destroy |
| Contracts & Grants | Pending, accepted, and denied proposals | Office of Research |
| Personnel | Graduate funding via Form-2 | Graduate Division |
| Personnel | H1-B applications | Office of International Students |
| CSEP / Financial | BARC payments (copy 1 and copy 2) | Billing Accounts Receivable Collections |
| Financial | Recharge Expense details (including invoices, financial journals) | Recharge Center |

Source: Auditor Analysis – Record function and description were provided by CNSI; Office of Record information was supplied by Business and Financial Services.