



UCSB Audit and Advisory Services
Internal Audit Report

Earth Research Institute

December 18, 2018

Performed by:

Antonio Mañas-Melendez, Associate Director
Irene Camargo, Senior Auditor
Stacy Stone, Staff Auditor

Approved by:

Ashley Anderson, Director

Report No. 08-19-0003

This page intentionally left blank.



AUDIT AND ADVISORY SERVICES
SANTA BARBARA, CALIFORNIA 93106-5140
Tel: (805) 893-2829
Fax: (805) 893-5423

December 18, 2018

To: Kelly Caylor, Director
Kathy Scheidemen, Management Services Officer
Earth Research Institute

Re: **Earth Research Institute**
Audit Report No. 08-19-0003

As part of the 2018-19 annual audit services plan, Audit and Advisory Services conducted an audit of the Earth Research Institute (ERI) at University of California, Santa Barbara (UCSB). Enclosed is the audit report detailing the results of our review.

The primary purpose of the audit was to evaluate internal controls established by Earth Research Institute (ERI) to manage sponsored projects. The review also assessed operational efficiencies for other business processes. The scope of the review was limited to sponsored projects and administrative processes regarding reconciliation of the campus General Ledger and management of overdrafts during fiscal year 2017-18.

Based on the results of the work performed, we found ERI has established effective internal controls related to sponsored project administration. However, our work identified opportunities to improve timeliness of sponsored project closeouts and documented oversight of monthly reconciliations of the campus General Ledger. Additionally, we found ERI had made substantial progress in resolving three account-fund overdrafts. One overdraft has been cleared and ERI continues working to resolve the other two.

Detailed observations and management corrective actions are included in the following sections of the report. The management corrective actions provided indicate that each audit observation was given thoughtful consideration, and positive measures have been taken or planned in order to implement the management corrective actions.

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

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ashley Andersen".

Ashley Andersen
Director
Audit and Advisory Services

Earth Research Institute
December 18, 2018
Page 2

Enclosure

cc: Chancellor Henry Yang
Assistant Chancellor for Finance and Resource Management Chuck Haines
Vice Chancellor for Research Joe Incandela
Assistant Vice Chancellor for Research Karen Hanson, Office of Research
UCSB Audit Committee
Senior Vice President and Chief Compliance and Audit Officer Alexander Bustamante

PURPOSE

The primary purpose of the audit was to evaluate internal controls established by Earth Research Institute (ERI) to manage sponsored projects. The review also assessed operational efficiencies for other business processes. This audit is part of the fiscal year 2018-19 audit services plan of University of California Santa Barbara (UCSB) Audit and Advisory Services.

SCOPE, OBJECTIVES AND METHODOLOGY

The scope of the review was limited to sponsored project and administrative processes regarding reconciliation of the campus General Ledger and management of overdrafts during fiscal year 2017-18. The objectives of this review were to determine whether:

- The following sponsored project practices were appropriate:
 - Direct costs charged to sponsored projects were allowable, allocable, and reasonable.
 - Effort reporting data was submitted in a timely manner and certified by the principal investigator.
 - 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.
 - Required conflict of interest were disclosed, signed, and submitted prior to award funding.
 - Financial closeout reports were prepared, appropriate and allowable costs certified, and timely submitted.
- Department administrative processes, including procedures for reconciliation of the campus General Ledger and overdrafts in administrative accounts, were properly reviewed and managed.

To accomplish our objectives, we:

- Researched and reviewed relevant UC and UCSB audits and reports related to sponsored projects administration. See Table 1 for more details.
- Researched and reviewed UC and UCSB policies, best practices, and other guidance relevant to the scope of the audit. Key guidance includes:
 - 2 CFR 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance).
 - UC Business and Finance Bulletin G-28, *Travel Regulations* (UC Policy G-28).
 - UC Business and Finance Bulletin BUS-43, *Materiel Management* (UC Policy BUS-43).
 - UC Business and Finance Bulletin A-47, *Direct Costing Procedures* (UC Policy A-47).
 - UC Contracts and Grants Manual.
 - UC Policy COI 700, *Disclosure of Financial Interests and Management of Conflicts of Interest in Private Sponsors or Research* (UC Policy COI 700).
 - UC Santa Barbara, *Accountability and Internal Control*, Policy 5101, issued April 2000.
- Conducted interviews with ERI management and staff to gain an understanding of ERI's processes, policies, and procedures for administering sponsored projects.

- Evaluated ERI's business practices to determine whether they incorporate adequate internal controls and reviewed for opportunities to enhance operational efficiency.
- Performed a risk analysis that considered sponsored projects post award monitoring procedures, conflict of interest compliance, and select department business processes such as financial processes, and reconciliation to the campus general ledger.
- Reviewed accuracy, timeliness, and completeness of the reconciliation process between the campus general ledger and the department shadow system.
- Reviewed administrative overdrafts in the department.
- Tested a sample of sponsored project expenses to determine whether:
 - Internal controls are in place and operating as intended.
 - Conflict of interest disclosure submissions for select awards comply with applicable federal, state, and policy requirements.
 - Department sponsored project closeout procedures ensured accounts were timely reconciled, reviewed, and approved.

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

BACKGROUND

*Earth Research Institute*¹

ERI is an Organized Research Unit (ORU) with the goal of fostering interdepartmental research and education. ERI was formed as a new ORU in July of 2010 via the merger of two long-standing ORUs, the Institute for Crustal Studies (ICS) and the Institute for Computational Earth System Science (ICESS). Compelling intellectual, administrative, budgetary, space, and facilities rationales drove the merge. ERI currently is home to two Research Centers:

- The National Science Foundation (NSF) and Environmental Protection Agency (EPA)-funded University of California Center for the Environmental Implications of Nanotechnology (UC CEIN). The UC CEIN studies the effects of manufactured nanomaterials on a range of biological systems in terrestrial, freshwater, and marine environments.
- The Cheadle Center for Biodiversity and Ecological Restoration (CCBER). This Center facilitates the university's mission of education, research, and provides outreach through its stewardship and restoration of campus lands and through preservation and management of its natural history collections.

ERI administered 157 awards totaling \$62 million in fiscal year 2017-18². Included in those awards, were 66 new awards totaling \$16 million in fiscal year 2017-18. The majority of the awards were NSF, \$5.78M, and National Aeronautics and Space Administration (NASA), \$5.49M in grants. ERI has developed department procedures covering administrative and financial processes, including sponsored project administration, account reconciliation, payroll, travel, invoice processing, transfers of expense, effort reporting, and other areas.

¹ Earth Research Institute website.

² According to ERI.

Table 1 Relevant Work by UC Audit and Advisory Services		
Report Name	Year	Campus
Marine Science Institute	2017	UCSB
National Center for Ecological Analysis and Synthesis	2017	UCSB
Kavli Institute for Theoretical Physics	2017	UCSB
Institute of the Environment and Sustainability	2017	UCLA
Sierra Nevada Research Institute Advisory Service Report	2017	UCM

Source: Auditor analysis.

Office of Research³

The Office of Research assists UCSB faculty research by facilitating access to extramural funding for contracts, grants, and awards by providing guidance on policies for solicitation, acceptance or execution, and administration of awards from extramural sponsors. Two units within Office of Research provide solicitation and administration to faculty for sponsored projects:

- The Research Development (RD) team works to make sure that faculty has available all the tools for success from funding source information, proposal review, and writing workshops to mock panel reviews and site visit preparation for strategic campus initiatives. By anticipating recurring solicitations, RD alerts faculty to upcoming major collaborative opportunities requiring significant advance planning. RD provides advice and resource materials, including sample proposals and funding databases. They provide agency and foundation specific information that can greatly simplify matching faculty research goals to the most receptive funding source, as well as helping formulate a proposal that speaks to that particular review process.
- The Sponsored Projects Office (SPO) assists faculty and professional research staff in their efforts to secure and ensure proper stewardship of external funding. This office is responsible for the effective and timely handling of faculty research proposals, specifically for preparing, interpreting, negotiating, and accepting agreements on behalf of the University of California Regents (the Regents) for projects funded by federal and state agencies, foundations, and other public and private sources. Sponsored projects teams, consisting of an officer (lead) and an analyst, are assigned to each UCSB department and unit that administers contracts and grants.

The sponsored project administration process begins with preparing a proposal, including scope and objective, and a detailed budget justification of project costs. It is submitted by principal investigators (PI) to be approved by the Office of Research. If applicable, the award must also include documentation of all subaward agreements. The PI is responsible for disclosing any financial conflicts of interest with the project. The Office of Research tracks all proposals and awards in an electronic database. Upon closeout of the sponsored project, all funds must be timely reconciled and reported. See Table 2 for a detailed description of the process.

³ UCSB Office of Research website.

Table 2		Sponsored Project Administration Processes	
Components		Description	
Proposal Solicitation and Submission		The SPO is responsible for reviewing grant, cooperative agreement, and contract proposals and for ensuring that proposals are consistent with University policy and meets all federal mandates.	
Budget Justification		The budget is a financial proposal that reflects the work proposed. It outlines the expected project costs in detail. A budget is presented as a categorical list of anticipated project costs that represents the researcher's best estimate of the funds needed to support the proposed work to include direct costs, indirect costs, project contributions (cost sharing), and budget justification.	
Award Acceptance and Administration		The authority to negotiate and accept an award on behalf of the University is delegated from the Regents to the Chancellor and the Chancellor has redelegated this authority to Sponsored Projects Office in the Office of Research. SPO will review the award document to assure that there are not terms that would either violate UC policies or hamper the researcher's ability to carry out the project.	
Subaward Agreements		SPO reviews subaward documentation prior to endorsement of a proposal containing Multi-Campus Agreement (MCA) or subaward. Principal investigators must provide for a review a fair and reasonable cost analysis and submission of proper forms.	
Conflict of Interest Disclosure		Principal investigators must complete a Conflict of Interest (COI) disclosure form and submit to the Office of Research to determine whether there are any organizational conflicts of interest.	
Office of Research Bit of Information		Office of Research Bit of Information (ORBiT) is the Office of Research's contract and grant electronic database. All proposals submitted by the campus and all awards accepted by the campus are tracked in this system.	
Contract & Grant Closeout		When a sponsored project ends, certain administrative actions are required to ensure an orderly and formal closing of the award. Specific reporting and deliverable requirements are set forth in the sponsor's award documents or in policies.	

Source: Office of Research website.

Business and Financial Services: Extramural Funds Accounting⁴

The Extramural Funds Accounting unit oversees the financial management of all external funding received by UCSB, including federal, state, local and other government, private contracts and grants, endowments, and gifts. They advise on matters of financial compliance and proper cost accounting. The unit provides guidance on financial reporting, effort reporting, review of high-risk expense transfers for compliance, cost share monitoring, and support to departments in managing extramural funds. See Table 3 for cost definitions.

⁴ Business & Financial Services: Extramural Funds website.

Table 3		Sponsored Project Cost Definitions	
Terms	Definitions		
Allocable Cost	A cost is allocable to a particular sponsored project if the goods or services involved are chargeable or assignable to such project in accordance with relative benefit received or other equitable relationship. Every incurred cost must have a direct benefit to the sponsored project being charge.		
Allowable Cost	Cost must be reasonable, allocable, given consistent treatment through application of generally accepted accounting practices appropriate to the circumstances, in conformance with the limitations or exclusions for individual cost set for in Uniform Guidance, individual award terms do not restrict the charge, and follow UC policy guidelines.		
Reasonable Cost	A cost is reasonable if the nature of the goods or services acquired or applied, and the amount involved, reflect the action that a prudent person would have taken under the prevailing circumstances when the decision to incur the cost was made.		
Cost Transfers	Cost transfers occur when goods or services originally paid for from one university account-fund are subsequently transferred to another account-fund to correct an erroneous recording; to record a change in the decision made originally as to the use of goods, or services; or to redistribute certain high numerical but small individual and/or minor charges which requires a justification from the principal investigator.		
Effort Reporting	Effort reporting is a process mandated by the federal government to verify that direct labor cost charges to, or cost shared on, sponsored projects are accurate, timely, and reflect the actual level or work performed. Effort is the portion of time spent on a particular activity, expressed as a percentage of the individual's total activity for the university.		

Source: Business & Financial Services.

Relevant Policies and Guidance

Relevant policies, laws, regulations, and procedures were reviewed and considered as applicable to the scope of our audit. See Table 4 for relevant policies and guidance.

Table 4		Relevant Policies and Guidance	
Policy		Summary	
2 CFR 200, <i>Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards</i> (Uniform Guidance)		Federal Office of Management and Budget (OMB) issued guidance on administrative requirements, cost principles and audit requirements for federal awards (which includes research grant awards).	
UC Contracts and Grants Manual		Provides guidance on policies for the solicitation, acceptance or execution, and administration of contracts and awards from extramural sponsors.	
UC Business and Finance Bulletin G-28, <i>Travel Regulations</i> (UC Policy G-28)		Includes special policy and regulations to comply with IRS regulations regarding the provision and reimbursement of business-related travel.	
UC Business and Finance Bulletin BUS-43, <i>Material Management</i> (UC Policy BUS-43).		Governs University procurement procedures and establishes bid thresholds and selection criteria.	
UC Business and Finance Bulletin A-47, <i>Direct Costing Procedures</i> (UC Policy A-47).		Provides guidelines for direct costing to improve uniformity and consistency in the recording of direct costs throughout the University.	
UCSB <i>Accountability and Internal Control</i> , Policy 5101.		Provides accountability and internal control guidance for financial control purposes. Routine examination and reconciliation of transaction records to official University records is required to verify the accuracy of the records, the appropriateness of the transactions, and their compliance with policy.	
UC Policy COI 700, <i>Disclosure of Financial Interests and Management of Conflicts of Interest, National Science Foundation Awards</i>		This Policy establishes a process for implementing the National Science Foundation's Investigator Financial Interest Policy. The process is intended to identify and manage potential conflicts to assure the objectivity with which projects are designed, conducted or reported.	

Source: Auditor analysis.

SUMMARY OPINION

Based on the results of the work performed, we found ERI has established effective internal controls related to sponsored project administration. However, our work identified opportunities to improve timeliness of sponsored project closeouts and documented oversight of monthly reconciliations of the campus General Ledger. Additionally, we found ERI had made substantial progress in resolving three account-fund overdrafts. One overdraft has been cleared and ERI continues working to resolve the other two.

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

DETAILED OBSERVATIONS AND MANAGEMENT CORRECTIVE ACTIONS

A. Sponsored Projects

Our evaluation included a limited review of twenty sponsored project expenses⁵ from two National Science Foundation (NSF) awards⁶ and two industry sponsored project awards. We found that costs were allocable and allowable per the approved budget and sponsor terms and conditions; were reasonable and adequately supported; were properly reviewed, and all required approvals were obtained. However, we noted minor instances where support documentation could be strengthened in travel expenses.

Our review of the two federal awards found effort reporting requirements were timely submitted, adequately certified, and payroll percentage calculations outlined in the sponsored project budget detail agreed with general ledger payroll distribution reports. Table 5 summarizes our detailed testing review.

Table 5		Sponsored Project Test	
Requirement	Detailed Testing	Rating	
Allowable/ Allocable	<ul style="list-style-type: none"> - Cost type was an appropriate expense in the budget proposal. - Payroll was included in the budget either by name or included as staff type. - Cost did not exceed any budget thresholds for that type. - Travel transactions did not exceed the proposed budget. - Subawards were included as part of the award. 	✓	
Reasonable	<ul style="list-style-type: none"> - Transactions were recognized as necessary for the mission of the award. - Travel was relevant to the mission of the award. - Prices were reasonable for the type of purchase or cost. - Transportation and lodging expenses were reasonable for the area. - Subaward charges were reasonable as outlined in the budget. 	✓	
Properly Supported	<ul style="list-style-type: none"> - Appropriate documentation supported cost and purpose. - Purchase orders were properly authorized and had receipt confirmation. - Travel reimbursement forms included appropriate documentation and receipts. - Payroll transactions identified staff in proposal and payment in the general ledger. - Subaward invoices or other documentation were appropriately approved. 	✓	
Effort Reporting*	<ul style="list-style-type: none"> - Effort reporting was certified by the principal investigator of work performed. - Salary agreed with the percentage reported in the Effort Reporting System. - Period of submission was within 120 days. 	✓	

Source: Auditor analysis.
 ✓: Complied with detailed testing.
 x: Did not apply.
 *: Only federal awards evaluated.

Conflict of Interest

We selected a sample of ten sponsored projects and found, COI disclosure statements were electronically submitted and processed prior to funding of the award in accordance with University, state, and federal policy requirements.

⁵ Five transactions for each respective award.

⁶ NSF awards are funded with federal funds.

To perform our testing, we obtained PI disclosure statements and validated the following information: the type of disclosure made (industry or federal) was consistent with the award type; the date the disclosure was submitted; that all of the questions on the form were answered; and that submission reflected information for an electronic signature. In addition, we validated that the disclosure statement was also recorded in the ORBiT system. The policy requires disclosure of financial interests to any research activity funded or supported to ensure principal investigators are making decisions in the best interest of the public.

Closeout Procedures

We reviewed closeout procedures of two sponsored projects and found closeout memos were prepared, properly certified by the principal investigator attesting all expenditures were appropriate and allowable, and the closeout balance agreed with the general ledger. However, both closeout memos were not submitted to Extramural Funds Accounting two weeks prior to the deadline required to submit the final financial report. In addition, one of the awards closeout memo was not submitted within 90 days from the end date of the grant. Specifically, the closeout memo was submitted 126 days from the grant end date. See Table 6 for the results of our test.

Closeout processes are prescribed by Extramural Funds Accounting to ensure accounts are properly reconciled, reviewed, and approved. Compliance with federal and local requirements is critical to the University's continued participation in contract and grant programs.

Table 6	Sponsored Project Closeout	
Procedure	Rating	
Closeout memo prepared	✓	
Certification clause statement included	✓	
Closeout memo signed by PI	✓	
Closeout balance verified to the general ledger	✓	
Timely submission	✗	

Source: Auditor analysis.
 ✓: Complied with award terms and conditions, federal requirements, and University policies
 ✗: Both closeout memos were not submitted timely.

B. Administrative Processes

Overdraft Accounts

As detailed in Table 7, ERI had three account-funds in overdraft at the time we completed our review of fiscal year 2017-18. Management indicated there are plans to reduce and eliminate overdrafts, which are a result of recharge activities and other factors. In two cases, eliminating the overdrafts would require additional appropriations from the Office of Research. ERI should establish a definitive timetable for bringing administrative account-funds into balance. Our work found:

- Earth Research Institute Instruction Income fund was reduced from \$109,084 to \$69,213.

- Educational Fund should also be eliminated once final allocation from FY 2016-17 is released from Office of the Budget & Planning.
- University Opportunity Fund cleared due to a release of funds from the Office of Budget & Planning.

Table 7		
Account-Funds in Overdraft		
Fund Title	Comments	Overdraft Amount
Earth Research Institute Instruction Income	Recharge account is debited and credited throughout the year. Overdraft was \$109,084.02 as of July 2018. It was reduced by \$39,870.70 in August 2018.	\$69,213.32
Educational Fund	ERI stated that deficit should be eliminated once funding is received from the Office of Budget & Planning.	\$3,103.13
University Opportunity Fund	Overdraft was cleared.	<i>Cleared</i>

Source: Auditor analysis.

Reconciliation

Our review of the reconciliation process for the month of May found that ERI has a process in place to reconcile the campus general ledger monthly. Our work determined the general ledger reconciliation between the campus and GUS⁷ to be accurate, complete, and timely. However, we found management's review is not documented to provide assurance that transactions and activities are for the correct purpose and amount, and allowable.

The reconciliation process is performed in GUS and provides an automated reconciliation function, which reconciles the bulk of the campus general ledger and an assisted reconciliation function providing the ability to manually find and reconcile matches between GUS and the general ledger. Outstanding expenditures are held in the Problems List account where financial transactions, which appear on the general ledger, have not been entered in GUS. Once transactions in the Problems List account have been investigated and posted, the transaction is manually reconciled. Management periodically spot-checks ledger transactions. We found reconciliations to be a time consuming process and it would be beneficial to evaluate a more efficient process to align transactions in GUS to the campus General Ledger and to minimize manual reconciliations of transactions that require investigation and manual posting.

Recommendations

We recommend that Earth Research Institute:

- Implement adequate controls to ensure closeout memo documentation is submitted to the Extramural Funds Accounting two weeks prior to the deadline required to submit the final financial report and the management of closeout memo's submitted within 90 days from the end date of the grant.

⁷ GUS: Custom database system used as a shadow system for financial management.

- Continue to work with the Office of Research and Office of Budget & Planning to establish a definitive timetable for bringing all remaining overdraft account-funds into balance.
- Evaluate how routine examination and reconciliation of transactions records could be more efficient. A better alignment of GL transactions in GUS could help to minimize manual reconciliations.

Management Corrective Actions

Earth Research Institute will

- Implement adequate controls to ensure closeout memo documentation is submitted to Extramural Funds Accounting two weeks prior to the deadline required to submit the final financial report.
- Continue to work with the Office of Research and Office of Budget & Planning to establish a definitive timetable for bringing all remaining overdraft account-funds into balance.
- Evaluate how routine examination and reconciliation of transactions records could be more efficient.

Audit and Advisory Services will follow up on the status of this management action plan by March 31, 2019.