UC MERCED AUDIT AND ADVISORY SERVICES

September 14, 2017

To: Sam Traina – Vice Chancellor for Research and Economic Development

Subject: Management of Externally Funded Sponsored Programs

Ref: Audit Report No. M17A001

Internal Audit has completed an audit of UC Merced's management of externally funded sponsored programs. This audit was part of the Fiscal Year 2016 – 2017 Audit Plan.

We appreciate the help we received from the Office of Research and Economic Development staff and the Departmental Research Administrators during this audit. If you have any questions, please feel free to contact me.

Todd Kucker
Director of Internal Audit

Attachment
cc   SVP Bustamante
          Chancellor Leland
          Associate Chancellor Putney
          Provost and Executive Vice Chancellor Peterson
          Interim Vice Chancellor Mendez
          Assistant Vice Chancellor Motton
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UNIVERSITY OF CALIFORNIA, MERCED
AUDIT AND ADVISORY SERVICES

Management of Externally Funded Sponsored Programs
Report No. M17A001

September 14, 2017

Work completed by:
Todd Kucker – Internal Audit

Management Summary

Internal Audit has completed an audit of UC Merced's management of externally funded sponsored programs. The Council on Governmental Relations (COGR) has put together a guidebook to help institutions review their management systems and internal controls in regard to managing sponsored programs. During this audit, we compared the current research administrative practices at UC Merced with COGR's recommended practices in order to identify areas for potential improvement.

To complete the audit, we discussed current practices with many employees in the Office of Research and Economic Development and employees in other departments whose responsibilities provide the institutional infrastructure for effectively administering awards. We also reviewed written guidance related to campus procedures.

From the comparison of UC Merced's research administrative practices with COGR's recommended practices, we concluded that the Office of Research and Economic Development has put adequate management practices in place to effectively manage sponsored programs. While some areas could have more mature practices and be better resourced, overall, UC Merced's practices were in line with management practices recommended by COGR.

As the guidebook covered a very large range of practices at research institutions, we identified areas where UC Merced could be more in line with the recommended management practices. We also identified other potential improvements during our discussions with employees and review of campus procedures. The following report contains our observations and recommendations in the following areas:

- Review of proposals before submission and accurate proposals in Cayuse
- Consistent training expectations for Research Administrators
- Testing and dissemination of campus emergency plans
- Proactive training for effective compliance practices
- Formal risk assessments of subrecipients
- Disparities among Department Research Administrators in schools and organized research units
- Increased scrutiny over the allowability of equipment purchases
- Backup for employee completing analysis in specialized research areas
- Updating the Office of Research and Economic Development webpages and links

Audit Objectives and Scope

Internal Audit has completed an audit of UC Merced's management of externally funded sponsored programs. This audit of pre-award and post-award processes was part of the Fiscal Year 2016 – 2017 Audit Plan. The purpose of the audit was to determine whether UC Merced has established adequate processes to effectively manage awards. The audit objectives were to:

- Compare current UC Merced research administrative practices with the practices recommended by the Council on Governmental Relations in order to recommend potential improvements; and,
- Review management systems and internal controls with regard to managing sponsored programs.

The scope of the audit included research administrative practices in place at the time of the audit, which was completed during December 2016 through April 2017.

During the audit, we interviewed employees from the following departments in the Office of Research and Economic Development and employees who work closely with principal investigators to manage the various aspects of awards:
- Research Compliance and Integrity
- Sponsored Projects Office
- Research Accounting Services
- Business Development
- Department of Animal Research Services
- Department Research Administrators in the schools and organized research units

As the audit was being completed, pre-award responsibilities of the Sponsored Projects Office and the post-award responsibilities of Research Accounting Services were being restructured as the two departments were merged to create a department called "Sponsored Research Services".

We also reviewed the research-related processes in departments outside of the Office of Research. The following departments indirectly participate in the financial administration and the institutional infrastructure for awards:
- Business and Financial Services
- Equipment Management
- Environmental Health and Safety
- Office of Campus Climate and Compliance

Background

This audit compared the current research-related processes and infrastructure in place at UC Merced with the effective management practices as outlined in a guidebook put together by the Council on Governmental Relations (COGR). The guidebook called "Managing Externally Funded Sponsored Programs – A Guide to Effective Management Practices" was put together for higher education institutions to help review their management systems and internal controls with regard to managing sponsored programs generally in the form of grants and contracts as

distinguished from gifts and other supported activities at the institution. The guidebook includes general principles in the following areas:

- Institutional Program for Effective Compliance Practices
- Sponsored Program Management
- Financial Administration
- Institutional Infrastructure
- Assessments and Audits
- Integrity and Protection Regulations
- Intellectual Property Management
- Export Controls, Embargos, Trade Sanctions, and Executive Orders

Effective practices in these areas and indicators that serve as evidence for good practices are outlined in the guide. Further discussion of the areas included in the guidebook and covered by this audit are included in Appendix A at the end of this report.

The majority of the practices recommended by the guide are under the purview of departments in the Office of Research and Economic Development (ORED) at UC Merced. ORED provides leadership, education and oversight to support scholarly investigation and is responsible for multiple departments, including campus institutes and centers and campus core facilities.

Recent Federal Audits at Other Universities

One way to identify risks from ineffective management practices is to review findings in recent Office of Inspector General (OIG) audits of awards. Recently, other universities have paid back significant amounts to sponsors after the OIG discovered issues with managing awards. Common issues noted in multiple audits have included:
- Salary costs exceeding allowable limits
- Equipment purchases that did not benefit the awards
- Unallowable expenses charged to the award
- Insufficiently supported expenses
- Transactions after award expiration or before the award effective date

Effective management practices are essential for complying with federal award requirements and avoiding costly audit findings.

Conclusion

From the comparison of UC Merced's research administrative practices with COGR's recommended practices, we concluded that the Office of Research and Economic Development has put adequate management practices in place to effectively manage sponsored programs. While some areas could have more mature practices and be better resourced, overall, UC Merced's practices were in line with management practices recommended by COGR.

As the guidebook covered a very large range of practices at research institutions, we identified areas where UC Merced could be more in line with the recommended management practices. We

also identified other potential improvements during our discussions with employees and review of campus procedures. We identified potential improvements which are presented below under the following headings:

- Review of proposals before submission and accurate proposals in Cayuse
- Consistent training expectations for Research Administrators
- Testing and dissemination of campus emergency plans
- Proactive training for effective compliance practices
- Formal risk assessments of subrecipients
- Disparities among Department Research Administrators in schools and organized research units
- Increased scrutiny over the allowability of equipment purchases
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- Updating the Office of Research and Economic Development webpages and links

Observations and Recommendations

The observations and recommendations are organized based upon the principles and indicators presented in the COGR manual (see Appendix A). Some of the areas noted during the audit identified risks where internal controls needed improvement. Management corrective actions were provided for these issues. In other instances, risks were being managed but current practices could be more consistent with COGR's recommended practices. We provided recommendations in these areas for management to consider.

1. **Review of proposals before submission and accurate proposals in Cayuse**

COGR Recommended Practice – "The institution assigns personnel to conduct review of proposals prior to submission to the sponsor."

During recent years, the Office of Research and Economic Development has implemented Cayuse SP and Cayuse 424. Both systems are used for proposal development and Cayuse 424 is used for system to system proposal submission.

Grant proposals are supposed to be submitted to, and reviewed by, the Sponsored Research Services proposal staff before submission. It appears that actual practices are not always complying with these requirements. During the audit, we noted that some of the awards set up in Cayuse had not originally been set up during the proposal stage. In these instances, faculty had submitted the proposals without review and approval by the Sponsored Projects Office.

One purpose for the review by the Sponsored Research Services Office is to review that information in the proposal is accurate and that all award requirements are acceptable by the University. The risk is that an award is received that is based upon an inaccurate proposal. The Office of Research then has to consider the risks, costs, and benefits of the award before determining whether the award will be formally accepted.

We recommend that steps be taken to better incentivize faculty to submit proposals for proper review before submission to sponsors. When proposals are submitted, an employee in Sponsored Research Services should verify that the information in Cayuse is identical to the information submitted to sponsors. The requirement for setting up proposals in Cayuse should be reiterated to faculty who are pursuing awards.

Cayuse should be utilized to review UC Merced's success rate with award proposals. Trends in successful and unsuccessful proposal submissions should be reviewed to improve UC Merced's proposals. If the proposal data in Cayuse is incomplete (as not all unsuccessful proposals are included), there will be inaccuracies in the data and possibly in the reporting to the UC Office of the President.

Management Corrective Action

To correct this issue, a letter from the Provost and Vice Chancellor for Research was sent to all faculty members explaining the UC policy requirement that proposals for extramural funding be submitted by official UC Contracts and Grants Officers. The letter stated that the authority to submit proposals on behalf of the UC Regents is delegated to a specific set of employees by the President of the University and that, at UC Merced, this authority is delegated to the Contracts and Grants Officers in Sponsored Research Services (SRS). The letter discussed the risks of not submitting proposals to SRS, which includes the inability for the campus to accept the award if the terms and conditions of the sponsor are not acceptable. This letter was sent to faculty members before this report was issued.

2. Consistent training expectations for Research Administrators

COGR Recommended Practices – "Persons responsible for the initiation of direct charges to programs and persons responsible for the approval and payment of those charges are knowledgeable of and follow the policies regarding the allowability of costs and differentiation of types of costs into direct or indirect cost categories." "The institution has a proactive program of investigator and staff training on its costing policies, including allowability, allocability, consistency, reasonableness and verifiability or auditability."

Research Administrators in the schools and organized research units play a critical role in managing awards. They help manage post award spending which is an area of focus by OIG auditors. During the audit, we discussed current practices with some of the Department Research Administrators. The current training for Department Research Administrators includes monthly forums to discuss policy updates and other ad hoc trainings. It is very important that Research Administrators obtain and maintain the required competencies necessary to keep up with the many administrative requirements. Also, it has been difficult to recruit experienced Research Administrators at UC Merced so new Research Administrators sometimes have very little experience with managing externally funded sponsored programs.

We recommend that the Office of Research establish standard training expectations for Research Administrators. Research Administrators should complete particular training classes and then be able to prove that they understand the information covered in the course.

Management Corrective Action

The Office of Research is aware of the need to develop a proactive training program and has begun the development of various modules based on reviews of other such training programs. Conversations have been had with UCSD to utilize a portion of their online training program. Unfortunately, staffing level and budget constraints have hampered the finalization of the modules and rollout of a Department Research Administrator (DRA) certification program.

ORED plans to develop and rollout the certification program while implementing the recommendations of the Research Excellence and Academic Distinction (READ) workforce planning group. Switching costs have been built into the plan developed by the READ workgroup that will facilitate the streamlining of business processes in research administration across campus and the development of a research administrator certification program focused on these refined procedures.

In the absence of a DRA certification program, Sponsored Research Services (SRS) conducts many other formal/standardized trainings, including a monthly research administration forums to provide training on areas where the office notices deficits as well as to provide updates and training on policy changes. SRS provides periodic trainings on Cayuse, proposal submission, and various post-award topics in addition to participating in the Financial Management Certification Program in the areas of Research Administration, Travel, Budget Development and Financial Management. Additionally, SRS provides individual or school based training either as requested or when a particular deficit is noticed in an area.

The certification program will be set up by June 30, 2018.

Observations not requiring management corrective actions

During the audit, we noted some areas where the maturity of UC Merced's practices could be improved. In these instances, UC Merced has practices in place which are consistent with the practices recommended by the COGR Manual, but it was apparent that the campus could formalize and improve the practices.

We also noted some issues which were particular to UC Merced and was not specifically covered in the COGR Manual. Our observations and recommendations for improvement in these areas are presented below.

3. Testing and dissemination of campus emergency plans

COGR Recommended Practices – "The institution has a disaster recovery plan and emergency procedures for dealing with catastrophic events that could affect facilities, equipment, and other

institutional systems and materials including research, financial, and other administrative records." "The institution has mechanisms to establish, monitor, and evaluate plans and procedures."

The COGR manual brings up the topic of emergency plans in a few areas. One indicator related to emergency plans is that "Fire Protection and other emergency preparedness programs exist and are disseminated within the institution". During the audit, we reviewed Laboratory Safety Plans that are required for labs and the written emergency plan to protect the animals in the Department of Animal Research Services. While the individual plans appear adequate, there is not adequate coordination and dissemination of the emergency plans for the overall campus. COGR manual best practices call for adequate testing of the overall emergency plans. As the plans are not periodically tested, it would be difficult to determine whether the plans are appropriately designed and effective.

The UC recommends "Event-Ready" Principles and Practices for campuses where "the goal is a disaster-resistant and disaster-resilient institution". Necessary elements include:
- Annual exercises are conducted and evaluated, and corrective actions implemented as needed; and,
- An emergency preparedness and hazard awareness educational program is implemented for the entire campus community, including faculty, staff, and students.

We recommend that steps be taken to test and communicate the campus emergency plans. These plans should properly incorporate research at UC Merced and off-site locations.

At the time of this report, governance over campus safety functions and emergency planning at UC Merced is being reviewed and restructured by campus leadership. The emergency planning issue identified in this audit was included in the recommendations of a recent advisory service report, "Governance Over Campus Safety Functions" (Report No. M18C005).

4. Proactive training for effective compliance practices

COGR Recommended Practice – "An education process and training program is in place for both externally mandated and institutionally determined compliance requirements."

The COGR manual brings up the importance of proactive training in many of the different principles (for example, the need for training and communication of requirements is discussed in compliance, rights and responsibilities with respect to intellectual property, and requirements for international travel). During the audit, we noted various areas where training could be improved for employees managing sponsored programs at UC Merced.

Communication of compliance requirements to faculty and staff seems ad hoc and infrequent. Training related to export controls serves as a good example. During 2016, there was a formal training of procurement staff and other employees who need to know the requirements related to export controls. Since the formal training in 2016, new employees have been hired in Procurement who should receive formal training related to export controls. Research Compliance

has put together useful information on their website related to the requirements which would be helpful to a new employee, but there is not periodic training related to export controls.

Per the COGR manual, UC Merced should have "a program for training in compliance for individuals involved in sponsored research programs and should identify specific training content necessary for each type of position." Also, UC Merced should "have a training program for the responsible conduct of research as required and ensure that individuals for whom such training is mandated receive appropriate training."

To simplify the many requirements for faculty, we recommend that a handbook be put together for Principal Investigators. A PI handbook should bring together the administrative information which is currently available in many different locations. It should discuss details for grant proposals, the pre award process at UC Merced, and information that is helpful for managing grants from award acceptance through closeout.

5. **Risk assessments of subrecipients**

COGR Recommended Practice – "The institution has mechanisms in place to conduct a risk assessment for its subrecipients to determine the level and type of on-going monitoring required based on the level of risk assigned by the institution."

During the audit, we reviewed the current processes in place for monitoring subrecipients. While current processes appear adequate based upon the number of subrecipients, we recommend formalizing the risk assessment process. Discussions with the Subaward manager show that she understands the risks related to the different subrecipients. Documentation should be maintained which provides evidence that a periodic risk assessment of subrecipients is completed.

6. **Disparities among Department Research Administrators in schools and organized research units**

During the audit, we put together a high level summary of grant spending during July 1, 2016 through February 28, 2017 from the financial system. This enabled us to review the number of active awards managed by the schools and organized research units. We also reviewed job responsibilities related to the Department Research Administrators who worked closely with principal investigators in the different areas. From this high level review, it appeared that there were very different grant workloads by Research Administrator.

We also noted that Department Research Administrators had very different job titles across the campus. While most Department Research Administrators are in different levels of the Research Administrator title codes, others have title codes as Administrative Officers or are under Research Compliance title codes. While research administration was sometimes a smaller portion of the daily work of employees, it was difficult to determine whether the job titles reflected the differences in work.

During recent staff hiring plan discussions at UC Merced, one area of focus has been related to the organization of Research Administrators. As Research Administrators play a crucial role in

managing internal controls over post award spending and in decreasing the administrative workload for faculty, we agree with recommended changes that will provide better support and training for Research Administrators.

7. Increased scrutiny over the allowability of equipment purchases

COGR Recommended Practices – "The institution has adopted a system for appropriate acquisition and protection of equipment." "Proposed purchases of equipment are reviewed to avoid acquisition of unnecessary items."

During the audit, we met with the campus equipment manager and discussed how equipment purchased with grant funding is tracked and managed from the time of purchase until disposal. The procedures for tracking equipment appeared to adequately fulfill the practices recommended by the COGR manual. One area for improvement relates to the review of equipment purchases.

Prior to our audit, an award sponsor audited the spending on a closed award and identified that unallowable equipment had inappropriately been charged to the award. As a result, UC Merced paid back funding to the sponsor after the award had been closed out. Equipment purchases have been an area of significant OIG audit findings at other Universities. With the current risks related to equipment purchases, Sponsored Research Services should provide training in this area for Departmental Research Administrators.

8. Backup for employee completing analysis in specialized research areas

During the audit, we reviewed the work of the Cost Standards and Policy Analyst in the Controller's Office. This analyst has been assigned responsibilities for Cost Accounting Standards and the DS-2 Disclosure Statement (which will eventually be filed when UC Merced reaches the threshold of federal award funding), the Institutional Rate Agreement, and costs related to Specialized Service/Recharge Centers. These areas appear to be well managed by the cost analyst. During prior years, proper review of campus recharge rates was an area that the campus needed more expertise and resources.

With the recent improvements in these specialized areas, we recommend that steps be taken to cross-train another employee who could step in and manage the information, if needed. Currently, only the lone employee is responsible for these areas. The risk is that the campus is putting too much reliance on one employee with specialized skills and these skills are difficult to recruit for at UC Merced. Without adding the necessary structure to the function, it could have a big impact if this employee were to leave the position.

9. Updating the Office of Research and Economic Development webpages and links

During the audit, we reviewed information on the Office of Research and Economic Development website. We noted some of the documents on the website were out of date documents which have been updated. We also noted links to other webpages that were broken.

It was apparent that the different departments within the Office of Research had different strategies related to sharing information on their webpages. While some departments provided exhaustive information for someone needing information, other departments just included a link on their site to email the department if anyone needed information on the topic.

We recommend that the website be reviewed and updated. As mentioned above, we recommend that a handbook be put together for Principal Investigators which would summarize the requirements for faculty, principal investigators, and Research Administrators. Simplifying and summarizing information might be a good strategy for the website as well.

Appendix A. Overview of principles included in COGR guidebook

The following principles are presented in the COGR guidebook for "Managing Externally Funded Sponsored Programs: A Guide to Effective Management Practices" (updated in March 2016). During the audit, we reviewed indicators to determine whether practices in these areas were effective.

Principle I. Institutional Program for Effective Compliance Practices
The institution has a comprehensive strategy in place that is designed to ensure compliance with federal, state and local laws, regulations, policies, and principles.

Principle II. Sponsored Program Management
The institution has a system to manage externally funded programs in accordance with the requirements of each sponsor.

Principle III. Financial Administration
The institution's cost estimating, accumulating, and reporting as well as its budget administration systems are designed in accordance with generally accepted accounting principles. Appropriate internal controls must be in place to monitor performance against institutional standards; the applicable costing provisions of the Uniform Administrative Requirements, cost principles, and Audit Requirements for Federal Awards; OMB Circulars (as they remain applicable to selected awards); the Federal Acquisition Regulations, agency-specific regulations; and the financial and technical terms and conditions of the specific award. The institution is responsible for the efficient and effective administration of federal awards through the application of sounds management practices and in a manner consistent with underlying agreements and program objectives.

Principle IV. Institutional Infrastructure
The institution provides the infrastructure to adequately support its sponsored programs and to support a culture of compliance necessary to adhere to regulations and policies applicable to the use of federal funds and has processes to ensure compliance.

Principle V. Assessments and Audits
The institution has a formal system for institution initiated compliance assessment, monitoring, and audit that demonstrates that the institution complies with federal regulations, institutional and other sponsor policies.

Principle VI. Integrity and Protections Regulations
The institution is in compliance with all federal regulations and institutional policies designed to ensure the responsible conduct of research, including deterring research misconduct, managing financial conflicts of interest, protecting the welfare of vertebrate animals used in research, and protecting the rights and welfare of human research subjects.

Principle VII. Intellectual Property Management
The institution has an intellectual property management system adequate to comply with terms and conditions of its institutional policies, all pertinent laws and regulations including the Bayh-

Dole Act, and agreements with external sponsors including the Federal Government as well as principles endorsed by groups such as the AAU and APLU.

Principle VIII. Export Controls, Embargos, Trade Sanctions, and Executive Orders
The institution has an export controls compliance program that enables to the maximum extent possible of an open, collaborative and international sponsored programs environment while ensuring compliance with federal laws and regulations governing export controls and embargos.