

November 1, 2018

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0206

**Subject:        *SIO Marine Physical Lab  
Report 2018-04***

The final report for SIO Marine Physical Lab Report 2018-04, is attached. We would like to thank all members of the department for their cooperation and assistance during the review.

Because we were able to reach agreement regarding management action plans in response to the audit recommendations, a formal response to the report is not requested. The findings included in this report will be added to our follow-up system. We will contact you at the appropriate time to evaluate the status of the management action plans.

UC wide policy requires that all draft reports be destroyed after the final report is issued. We also request that draft reports not be photocopied or otherwise redistributed.

David A. Meier  
Director  
Audit & Management Advisory Services

Attachment

cc:     Judy Bruner  
       Alex Bustamante  
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       Margaret Leinen  
       Guy Masters  
       William Kuperman  
       Cheryl Ross  
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# UC San Diego

AUDIT & MANAGEMENT ADVISORY SERVICES

SIO Marine Physical Lab  
Report No. 2018-04  
October 2018

**Performed By:**

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**Approved By:**

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ATTACHMENT A – SIO Marine Physical Lab Business Process Review

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## I. EXECUTIVE SUMMARY

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Audit & Management Advisory Services has completed a review of Scripps Institution of Oceanography Marine Physical Lab (MPL) as part of the approved audit plan for Fiscal Year (FY) 2017-18. The objective of our review was to determine whether internal controls and sound business practices were in place to mitigate financial and compliance risk. The scope of our review included activities and business practices for FY 2016-2017, and for the period July 1, 2017 through September 30, 2017.

We concluded that key internal controls within MPL were generally adequate and provided reasonable assurance that operations were effective, performed in compliance with University policies and procedures, and resulted in accurate financial reporting. However, we identified opportunities for improved policy compliance or internal control practices in the following four areas:

**A. Review of the MPL administrative recharge rate**

The MPL administrative recharge rate has not been reviewed by the Campus Recharge Rate Committee in some time.

**B. Timesheets lacking timely supervisory approval**

The Business Office should adopt a more rigorous system of following up on employee timesheets which have not received supervisory approval timely.

**C. Long outstanding receivables**

MPL's long outstanding receivables require follow-up.

**D. Oversight of scrap metal sales**

Enhanced controls are needed to ensure that the University is receiving fair value for scrap metal sold out of the MPL machine shop.

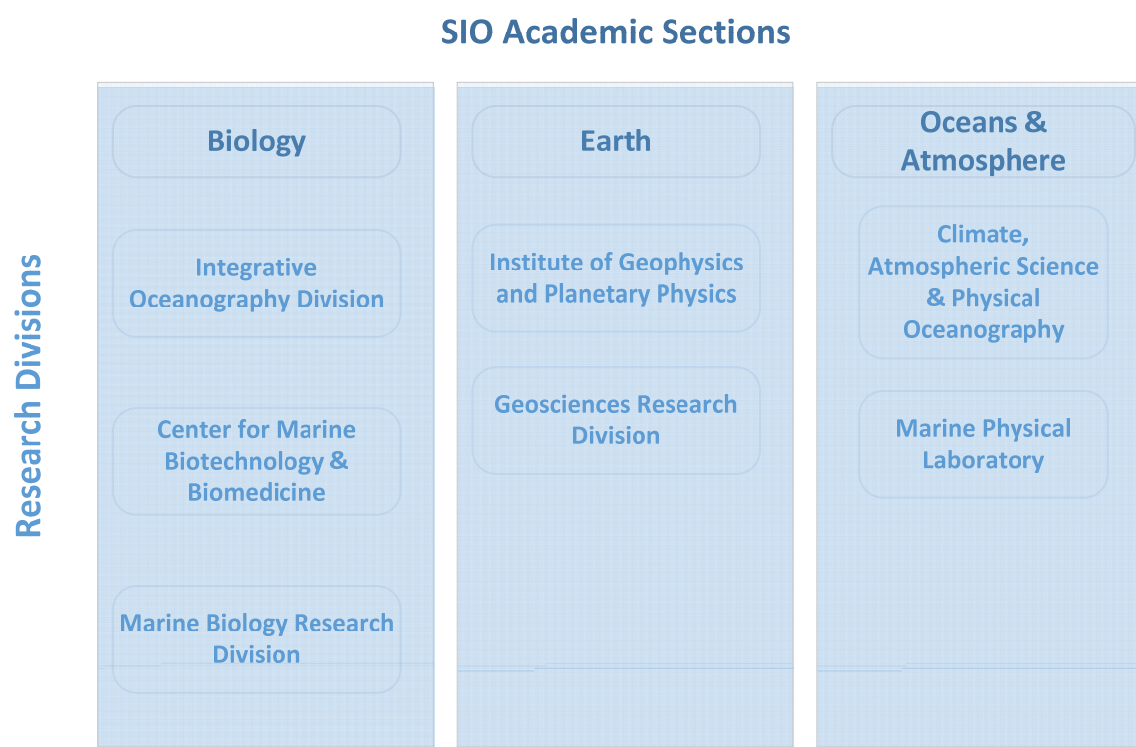
Observations and related recommendations are described in greater detail in section V. of this report.

## II. BACKGROUND

Audit & Management Advisory Services (AMAS) has completed a review of the Scripps Institution of Oceanography (SIO) Marine Physical Laboratory as part of the approved audit plan for Fiscal Year (FY) 2017-18. This report summarizes the results of our review.

SIO is an academic department of the University of California San Diego (UCSD) with a focus on marine and earth science research and education. SIO has three academic research sections: Biology, Earth, and Oceans & Atmosphere. Each section is comprised of two or more research divisions. The Marine Physical Lab is part of the Oceans and Atmosphere Section.

Figure 1.



The Marine Physical Laboratory (MPL) is an organized research unit serving an integral part of the academic environment of Scripps Institution of Oceanography and the University of California, San Diego by playing an important role in the sponsorship and supervision of graduate student research in areas of ocean sciences and technology<sup>1</sup>.

Originally established as a Navy-oriented research laboratory in 1946, MPL has maintained a strong multidisciplinary research program consisting entirely of sponsored projects, with a large sponsorship from the Department of Defense (DOD) and the National Science Foundation (NSF) in addition to the

<sup>1</sup> This organizational description of MPL was obtained from their website.

National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), other federal agencies, universities, non-profits, and state agencies.

Exploratory and technology based research and development appropriate to these programs are conducted at the laboratory, as well as the development of unique underwater sensor systems designed to meet specific research applications.

As a Navy-funded, academic laboratory, MPL has a dual mission to investigate and apply knowledge about the ocean, its boundaries and the surrounding media to the solution of the Navy's problems in undersea warfare and ocean technology; and to provide research training of students in areas of oceanography and ocean technology which have application to Navy requirements.

The Laboratory consists of individual research groups headed by Principal Investigators with a common interest in Observational Ocean Science with emphasis on developing state of the art instrumentation for studying ocean acoustic and seismic propagation, air-sea interaction, ocean volume dynamics and ocean bottom geophysics. A common business office and industrial research and development machine shop support the MPL research groups.

MPL's Principal Investigators are UC San Diego Research and Faculty members, some holding joint appointments outside Scripps Institution of Oceanography. This results in a strong academic link enabling graduate students to benefit from the multi-disciplinary resources of the University and provides an environment to address real-world research issues. In addition to research and teaching activities, MPL academics participate in the long-range planning of special interest to the Navy and other government agency research programs, the research community of UC San Diego and other public service activities.

MPL manages the Southern California Coastal Ocean Observing System (SCCOOS) grant funding for Scripps Institution of Oceanography. SCCOOS, a multi institutional consortium of 11 institutions, is a science-based decision support system that works interactively with local, state and federal agencies, resource managers, industry, policy makers, educators, scientists, and the general public to provide data, models, and products that advance our understanding of the current and future state of our coastal and global environment.

MPL also manages the Cooperative Institute for Marine Ecosystems and Climate (CIMEC), a partnership between the NOAA and several key universities in California. CIMEC administration includes the performance of all business and financial operations: management of funds exceeding \$20 million annually, analysis, reports, correspondence, goals and objectives, development of administrative policies and procedures, and contact with NOAA Cooperative Institute Programs, Grants Management Division, and numerous SIO Divisions.

SIO uses labor clearing accounts to recharge payroll costs. Effort is charged every payroll period directly to clearing accounts within the Integrated Financial Information Systems (IFIS). SIO personnel certify their effort via monthly or bi-weekly timesheets, and payroll charges are then recharged by the Business Office personnel from the temporary clearing accounts to the appropriate IFIS accounts based on the effort certified on the timesheets. At the end of each fiscal year, the clearing accounts are

reconciled to ensure that payroll expenses are materially consistent with costs charged to accounts via the recharge process.

In Fiscal Year 2016-17, MPL incurred total expenses of \$31.5 million. These expenditures were primarily funded by Federal funds (67%), private gifts, grants and flow-thru funds (13%), Regents and Presidents funds (12%), State funds (8%), and other fund sources (1%). On the expenditure side, faculty and staff salaries and related benefits accounted for approximately 47% of its expenditures, equipment and supply purchases (40%), and other expenditures net of recharge revenues (13%).

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### III. AUDIT OBJECTIVE, SCOPE, AND PROCEDURES

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The objective of our review was to determine whether internal controls and sound business practices were in place to mitigate financial and compliance risk. The scope of our review included activities and business practices for FY 2016-2017, during the period July 1, 2017 through September 30, 2017. In order to achieve our objective, we performed the following procedures:

- Reviewed the Section website, organization structure, and financial information;
- Reviewed applicable federal requirements;
- Reviewed University policies including, but not limited to:
  - UC Accounting Manual,
  - Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards (Uniform Guidance),
  - UCSD Policy & Records Administration (PPM) 395.41 *Timekeeping: Attendance Records*,
  - UCSD PPM 523 *Purchasing*,
  - UC Contract and Grant Manual,
  - UC Business Finance Bulletin (BFB) *BUS 29: Management and Control of University Equipment*,
  - UC BFB A-47 *Direct Costing Procedures*,
  - UC BFB IA-101 *Internal Control Standards: Departmental Payrolls*,
  - UC BFB BUS 43 *Materiel Management*,
  - UC BFB BUS 29 *Management and Control of University Equipment*,
  - UC BFB BUS 79: *Expenditures for Entertainment, Business Meetings and Other Occasions*,
  - UC BFB G-28: *Travel Regulations*;
- Interviewed management and key personnel to discuss business processes and any potential areas of concern;
- Reviewed UCSD BLINK guidance and links to policy including, but not limited to labor clearing, express card practices, expense transfers, purchasing, sales and use tax, travel, entertainment, equipment, delegations of authority, approval hierarchies, effort reporting, facilities management, and Statement of Audit Standards No. 112 (SAS 112 compliance);
- Evaluated the following:
  - IFIS electronic financial approval hierarchies,
  - Business Unit Management Tool roles,
  - Express Card cardholder roles,

- Delegations of authority for special entertainment;
- Evaluated business process controls utilizing internal control questionnaires and segregation of duties matrices;
- Reviewed custody and accountability over equipment;
- Verified the financial status of section funds and indices for the audit scope;
- Reviewed procedures for CANRA<sup>2</sup> compliance;
- Analyzed procedures and performed limited transaction testing in the following areas to verify that internal controls were adequate and functioning in compliance with University policy:
  - Contract and grant administration,
  - Gift funded research activity,
  - Sales and Service Agreements,
  - Operating ledger review,
  - Payroll and timekeeping,
  - Payroll and non-payroll expense transfers,
  - Non-payroll expenditures, including:
    - Travel,
    - MarketPlace purchases,
    - MyPayments transactions,
    - Bookstore purchases.
    - Business meeting and entertainment expenses, and
    - Express cards,
  - Effort reporting/Labor Clearing,
  - Equipment inventory,
  - Accounts receivable,
  - Overdraft reporting, and
  - SAS 112 compliance.

The scope of our review did not include analysis of information systems and processes or gift processing as those services are provided centrally within SIO.

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## IV. CONCLUSION

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Based on our review, we concluded that MPL internal controls were generally adequate and provided reasonable assurance that operations were effective, performed in compliance with University policies and procedures, and resulted in accurate financial reporting.

Business Office management and staff appear to have an excellent working knowledge of University and sponsor policies and internal controls and how they should be implemented.

**Attachment A** provides the results of the business process review. Specific management actions planned or in process for those areas were rated “improvement needed” or “improvement suggested,” as noted in the attachment. Our results are provided in more detail in the remainder of this report.

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<sup>2</sup> Child Abuse and Neglect Reporting Act



## V. OBSERVATIONS REQUIRING MANAGEMENT ACTION

<b>A.</b>	<b>Review of the MPL administrative recharge</b>
Our review found that the MPL Administrative recharge rate has not been reviewed by the Campus Recharge Rate Committee in some time.	
<b>Risk Statement/Effect</b>	
Failure to periodically review recharge rates increases the risk that cost allocations to sponsor agreements may not comply with current sponsor and University criteria for proposing and charging direct costs.	
<b>Management Action Plan</b>	
A.1	MPL will formally resubmit the MPL Administrative Services Recharge to the Campus Recharge Rate Committee to document that this rate is still considered appropriate.

### A. Review of the MPL Administrative Recharge – Detailed Discussion

Documentation we reviewed during our audit describes the MPL Administrative Recharge as follows:

*“Specific to MPL, costs for Administrative Services are considered a prorated direct cost. Administrative costs are prorated and provide for the equitable assignment of those costs, which, although allowable as direct charges to a contract or grant, are difficult or impractical to apportion by other means. Examples include, but are not limited to charges for janitorial services, administrative telephones, copying, graphics, postage, shipping, administrative computer expense, payments in accordance with the terms of the tenancy agreement with the Space and Naval Warfare Systems Center San Diego for guard and fire protection services, buildings and ground maintenance, and fees for utility usage.”*

*“Laboratory Administrative Salaries and Benefits provide for equitable assignment of laboratory administrative personnel working in support of contracts and grants. Although allowable as a direct charge, it is difficult or impractical to equitably apportion by other means.”*

*“These costs are prorated to the Salaries and Benefits (excluding any overtime) charged to the individuals projects. The University overhead cost rate has been reduced to compensate for MPL’s contract and grant administration.”*

We understand that this recharge rate was approved at 22% of direct salary costs by the UCSD Recharge Rate Committee in 1997, but that it has not been formally resubmitted for review since that time.

Personnel in the MPL Business Office indicated to us that these support costs and balances are

reviewed internally every fiscal year at the same time as salary recharge rates are reviewed and generated for the next fiscal year. However, they indicated that due to the shortage of staff, the MPL Business Office has not made a formal resubmission of the rate for approval in recent years. We understand that they intend to do so in the near future when Business Office staff availability permits.

<b>B.</b>	<b>Timesheets lacking timely supervisory approval</b>
During our review of timekeeping practices we noted that despite the efforts of the MPL timekeeping staff, evidence of supervisory approval for a small percentage of MPL timesheets (effort reports) was not obtained in a timely manner.	
<b>Risk Statement/Effect</b>	
Failure to provide timely certification of effort puts the University at risk of non-compliance in the event of a federal audit. Additionally, lack of internal controls for timekeeping may allow unauthorized payroll transactions to be processed and overpayments to be made resulting in a loss of funds.	
<b>Management Action Plan</b>	
The Business Office will:	
B.1	For any signatures which remain unsigned after some reasonable period of time, will develop a process to elevate and increase visibility of unsigned timesheets to higher levels of management.

<b>B. Timesheets lacking timely supervisory approval – Detailed Discussion</b>
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The Business Office policy is to normally obtain a signature on all timesheets. In limited circumstances, when it is not feasible to obtain a signature in a timely manner, the office accepts electronic signatures that are confirmed by email transmissions from the supervisor. While the Business Office has spent a considerable amount of time in contact with PI/supervisors to obtain approvals, the length of time and nature of conducting research in the field has sometimes led to difficulty in obtaining timesheet approval in a timely manner.

During our review, we examined in June 2018 the timesheets for February 2018 and found that a small percentage of the February timesheets (approximately 3 %) had not been signed by the employee’s supervisor. We discussed the issue with business office staff and learned that they do repeatedly attempt to obtain these signatures, but are not always able to do so in a timely manner due to employees who are traveling or for other reasons.

Obtaining 100% compliance with the supervisory approval requirement is a chronic difficulty in any large organization where paper timesheets are used. Most of the University has already transitioned to electronic timesheets where the supervisory approval process is easier to manage. It is expected that at some time in the future MPL will also discontinue the use of paper timesheets. While paper timesheets are still in use at MPL, however, the Business Office should continue to monitor the issue

closely and implement additional steps to ensure that they approach as near as possible to the goal of obtaining evidence of supervisory approval of employee timesheets in a timely manner.

<b>C.</b>	<b>Long outstanding receivables</b>
MPL's long outstanding accounts receivables require follow-up.	
<b>Risk Statement/Effect</b>	
Timely follow up on long outstanding receivables improves cash flow and reduces the risk of losses due to bad debts.	
<b>Management Action Plan</b>	
C.1	Business Office management will continue to work with OPAFS to review their long-outstanding receivables for further collection efforts or write-off.

### **B.C. Long Outstanding Receivables – Detailed Discussion**

As stated in UC Accounting Manual Policy R-212-2 on Receivables Management, departments should maintain a diligent program for managing receivables and reviewing outstanding accounts. As stated in Blink, the UCSD Office of Post Award Financial Services (OPAFS) has the primary responsibility to follow up on past due amounts by 60 days outstanding with the sponsor. OPAFS is also responsible to communicate any potential payment issues to departments. Blink also states that departments should monitor outstanding invoices and work with the PI to slow/stop work until payment resolution if there is an outstanding account receivable.

We noted that as of the conclusion of our audit fieldwork in June 2018, MPL had approximately \$225,000 in receivables which had been outstanding for more than 90 days.

Business Office management indicated to us that they intend to continue to work with OPAFS to review these long-outstanding receivables for further collection efforts or write-off.

<b>D.</b>	<b>Oversight of scrap metal sales</b>
Enhanced oversight is needed of sales of scrap metal generated in the MPL Machine Shop to ensure that the University is receiving fair value for sales to recyclers.	
<b>Risk Statement/Effect</b>	
Potentially unscrupulous behavior on the part of the parties purchasing the scrap metal could result in loss for the University.	

**Management Action Plan**

D.1	MPL has developed a process to check the value and weights of the scrap metal generated in the Machine Shop prior to handing the scrap metal over to the recycling firm.
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**B.D. Oversight of Scrap Metal Sales – Detailed Discussion**

As part of its work, the MPL Machine Shop generates scrap metal which must be sold to recycling firms. Accounting records indicated that in FY17 and FY18, MPL received a combined total of \$2,998 for the sale of scrap metal sold out of the Machine Shop.

When we inquired about the process for selling this scrap metal, we were told that MPL does not weigh its scrap metal prior to releasing it to the recycling vendor (the vendor). Rather, MPL relies on the integrity of the vendor to honestly report the weights and values of the scrap metal purchased from MPL.

We understand that the Machine Shop has valid reasons for not wishing to weigh 100% of the scrap metal it sells to vendors, as the cost of the labor involved in doing so would largely offset the value of the scrap being sold due to the time which this would require on the part of the Machine Shop staff.

On the other hand, however, the risk that an unscrupulous vendor might fraudulently underreport the value of the scrap metal purchases from MPL also must be managed. While the value of the scrap metal itself might not be material, even a small monetary fraud on the part of an unscrupulous vendor could hypothetically involve MPL in an administratively burdensome investigation.

In our opinion, a reasonable approach would be to randomly spot check or otherwise estimate the weights and values of the scrap metal prior to its removal from MPL by the vendor. As with any internal control, this process should be documented in order to enable MPL to demonstrate that it is taking reasonable actions to properly manage the value of materials under its control.

**SIO Marine Physical Lab Financial Controls Review  
 Audit Results by Business Office Functional Process  
 Audit & Management Advisory Services Project #2018-04**

AMAS Audit Review Procedure			Risk & Controls Balance Reasonable (Yes or No)	Audit Conclusion <sup>1</sup>	Comments
Internal Control Questionnaire/ Separation of Duties Matrix	Process Walk-through (Ltd Document Review)	Transaction Testing (Sample Basis)			
√	√	Reviewed MPL Administrative Recharge activity with the audit scope.	Yes	Improvement Suggested	This recharge continues to be compliant with its original authorization. Fund activity and balances are reviewed within MPL. However, the recharge rate has not been reviewed by the Campus Recharge Rate Review Committee in recent years.
√	√	Reviewed one month of timesheets, absence and overtime approvals, Leave Activity Summary Reports, and Distribution of Payroll Expense Reports (DOPEs) and reconciliations.	Yes	Improvement Suggested	Separation of duties appeared adequate. Timesheets were not signed by the supervisor timely for a small percentage of these timesheets.

<sup>1</sup> Improvement Suggested - Improvement Needed - Unsatisfactory

**SIO Marine Physical Lab Financial Controls Review  
 Audit Results by Business Office Functional Process  
 Audit & Management Advisory Services Project #2018-04**

√	√	Reviewed MPL accounts receivable which have been outstanding for over 90 days as of the end of FY18.	Yes	Improvement Suggested	Long outstanding receivables should be reviewed to determine if collection can be expedited or if write-off is appropriate.
√	√	Reviewed MPL Machine Shop business processes and financial activity within the audit scope.	Yes	Improvement Suggested	Business transactions are properly documented and compliant with University policy. However, additional oversight of scrap metal sales process is needed.
√	√	Reviewed CAMS records for 113 equipment assets in MPL's custody.	Yes	Satisfactory	The financial controls over purchases appeared adequate. A physical inventory is completed every 2 years in accordance with policy.
√	√	Judgmentally selected and reviewed transactions; traced to supporting documents.	Yes	Satisfactory	Separation of duties appeared adequate. Non-payroll expenditures appeared reasonable and supported by appropriate documentation.
√	√	Reviewed 9 trips totaling \$58,866; traced to vouchers and supporting documents.	Yes	Satisfactory	Selected travel expenses appeared reasonable and appropriately approved. No exceptions noted.

**SIO Marine Physical Lab Financial Controls Review  
 Audit Results by Business Office Functional Process  
 Audit & Management Advisory Services Project #2018-04**

√	√	Selected three sales and service agreements with outside customers for review.	Yes	Satisfactory	Sales and service agreements were properly approved and documented. Noted that MPL is complying with SIO differential income policy.
√	√	Reviewed a six sample of events totaling \$9,664. Noted that the business purpose and nature of the expenses was properly documented.	Yes	Satisfactory	All expenses reviewed complied with University policies. Noted no Federal or State funds were used for entertainment expense. No exceptions noted.
√	√	Examined documentation related to two MPL research projects funded by philanthropic donors.	Yes	Satisfactory	All expenses reviewed complied with University policies and donor intentions. When needed, approval for variance from the Standard F&A rates was obtained from UCOP as per University policy.
√	√	Reviewed 14 bookstore purchases totaling \$39,696; traced to vouchers and supporting documents.	Yes	Satisfactory	Selected transactions were properly documented and compliant with University policy. No exceptions noted.
√	√	Reviewed 12 MyPayments transactions totaling \$42,707; traced to vouchers and supporting documents.	Yes	Satisfactory	Tested transactions were properly documented and compliant with University policy. No exceptions noted.

**SIO Marine Physical Lab Financial Controls Review  
 Audit Results by Business Office Functional Process  
 Audit & Management Advisory Services Project #2018-04**

√		Examined sample of operating ledgers and financial reports. Reviewed internal control questionnaires to determine what their process was for financial reconciliation. Reviewed overdraft balances and resolution plans.	Yes	Satisfactory	Financial activity was routinely monitored for compliance with relevant agency requirements. Internal reporting and communication with Business Office and PIs was consistent and thorough. Overdraft balances were closely monitored with resolution plans. No exceptions noted.
√	√	Reviewed documentation related to six awards and evaluated journal vouchers, non-payroll and payroll expenses, and DOPE reports.	Yes	Satisfactory	All grant activity was consistent with sponsor requirements and was properly documented. Invoices from sub-awardees were properly approved prior to payment..