



At a Glance

Research Vessel Oceanus at Oregon State University: Audit of Incurred Costs Claimed on National Science Foundation Awards For the Period January 1, 2012 to December 31, 2015

Report No. OIG 17-1-004 | March 23, 2017

Why We Did This Audit

We received a complaint alleging that Oregon State University (OSU) was maintaining a surplus of Federal funds for operations and maintenance of the Oceanus research vessel (R/V), and had not accurately accounted for and reported its expenditures to NSF. This report addresses both allegations.

What We Recommend

We recommend NSF request that OSU return the \$315,016 of unspent operations and maintenance funds and the \$3,050 in improper salary and benefits expenses; limit future requests to amounts that already have been spent or will be spent within 3 days; and ensure annual financial reports and funding requests properly account for and apply any remaining funding balances.

Contact Us

For further information, contact us at (703) 292-7100 or oig@nsf.gov.

What We Found

OSU claimed more than \$11 million during our audit period under two cooperative agreements for maintenance and operations of the Oceanus research vessel. OSU generally complied with Federal and university requirements for requesting and managing Federal funding, but based some funding requests on budgeted amounts rather than actual expenses. As a result, OSU had a surplus of \$315,016 of unspent funds, which it did not report to NSF. OSU needs to return the unspent funds to NSF and ensure its annual reports and funding requests reflect unspent funds. Additionally, OSU needs to return \$3,050 in salary and benefit expenses for an employee who did not work on the R/V Oceanus.

Awardee Response

OSU does not concur with our first recommendation. It noted, however, that the methodology for cost accumulation and drawdowns of Major Overhaul and Stabilization Account funds should be modernized, and that it is committed to working with NSF to implement modifications. OSU concurred with the remaining two recommendations.



National Science Foundation • Office of Inspector General
4201 Wilson Boulevard, Suite I-1135, Arlington, Virginia 22230

MEMORANDUM

Date: March 23, 2017

To: Dale Bell
Director, Division of Institution and Award Support

Jamie French
Director, Division of Grants and Agreements

From: Mark Bell
Assistant Inspector General, Office of Audits

Subject: Audit Report No. 17-1-004
Research Vessel Oceanus at Oregon State University

This memo transmits our report for the audit of costs totaling approximately \$11 million charged by Oregon State University to two cooperative agreements with the National Science Foundation for operation and maintenance of the Research Vessel Oceanus during the period January 1, 2012, to December 31, 2015. The objective of this performance audit was to determine if costs claimed are allowable, allocable, reasonable and in conformity with NSF award terms and conditions and applicable federal requirements.

In accordance with Office of Management and Budget Circular A-50, Audit Followup, please provide a written corrective action plan to address the report recommendations. In addressing the report's recommendations, this corrective action plan should detail specific actions and associated milestone dates. Please provide the action plan within 60 calendar days of the date of this report.

We thank your staff for the assistance that was extended to the auditors during this audit. If you have any questions regarding this report, please contact Dan Buchtel at 303-844-5645.

Attachment

cc: Dr. Joan Ferrini-Mundy, Chief Operating Officer (Acting), OD
Fae Korsmo, Senior Advisor, OD
Christina Sarris, Assistant General Counsel, OD
Teresa Grancorvitz, Deputy Office Head, Office of Budget, Finance, and Award Management
Pamela Hawkins, Director of Operations, Division of Grants and Agreements
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Rose Dufour, Program Director, Ship Operations, GEO

**Research Vessel Oceanus at Oregon State University
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For the Period January 1, 2012 to December 31, 2015**

**National Science Foundation
Office of Inspector General**

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OIG 17-1-004





Office of Inspector General

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Abbreviations

MOSA	Major Overhaul and Stabilization Account
NSF	National Science Foundations
OIG	Office of Inspector General
OMB	Office of Management and Budget
OSU	Oregon State University
R/V	Research Vessel



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Background

The National Science Foundation (NSF) funds operations and maintenance costs for the research vessel (R/V) *Oceanus*, operated by Oregon State University (OSU), under a cooperative agreement that is renewed every 5 years.

OSU budgets for two types of ship costs. The first type is day-to-day operations of the ship and the second, known as the Major Overhaul and Stabilization Account (MOSA), covers large-scale maintenance and repair.

Our audit included all costs incurred from January 1, 2012, through December 31, 2015 for operations and maintenance of R/V *Oceanus*. This included the final 8 months of the cooperative agreement that ended August 31, 2012,¹ and the current cooperative agreement, which became effective April 1, 2012.²

Figure 1: The research vessel (R/V) *Oceanus*



Source: OSU website

Results of Audit

OSU claimed more than \$11 million under two cooperative agreements for the operation and maintenance of the R/V *Oceanus* from January 1, 2012, through December 31, 2015. OSU generally complied with Federal and university requirements for requesting and managing Federal funding, but based some funding requests on budgeted amounts rather than actual expenses. As a result, OSU had a surplus of \$315,016, which it did not report to NSF. OSU needs to return the unspent funds to NSF and ensure its annual reports and funding requests reflect unspent funds. Additionally, OSU needs to return \$3,050 in salary and benefit expenses claimed to NSF for an employee who did not work on the R/V *Oceanus*.

¹ NSF Cooperative Agreement No. [REDACTED]

² NSF Cooperative Agreement No. [REDACTED]



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OSU Maintained a Surplus of Federal Funds for MOSA

OSU requested advances of NSF funds for budgeted MOSA expenses, rather than actual expenses. In doing so, OSU did not comply with OMB, NSF, and university requirements for managing Federal funds³ and generated a surplus of NSF funds that exceeded \$513,000 at one point. As of December 31, 2015, the end of our audit period, OSU was holding more than \$315,000 of Federal funds that were not tied to expenditures. Returning the surplus to NSF and coordinating future drawdowns more closely with expenditure needs will bring OSU into compliance with Federal and university requirements and result in a better use of Federal funds.

Summary of OSU's Response: OSU did not agree with this finding. However, it noted that the methodology for cost accumulation and drawdowns of MOSA funds should be modernized and committed to work with NSF to implement modifications. OSU stated that its practice for accumulating and expending MOSA funds was based on guidance contained in NSF's 2011 ship operations proposal guidelines General Programmatic Terms and Conditions for Ship Operations Awards, and from NSF's Ship Operations Program Officer. OSU stated that MOSA funding is a component of the daily rate charged to all ship users, including NSF, and asserted that the unexpended MOSA balance cited in the audit report includes funds collected from NSF as well as other Federal and Nonfederal users. It also stated that MOSA is critical to complete repairs and that if funds are returned, it is unclear if this would conflict with General Programmatic Conditions. Finally, OSU stated it reached out to other ship operators for best practices and that it is exploring implementing a Specialized Service Facility model for more transparent ship operations.

OIG's Additional Comments: We reviewed the guidance OSU cited as the basis for its practice of drawing MOSA funds in advance of the actual need. We did not find any direction to ignore, or waive, OMB, NSF, or university requirements for managing Federal funds. OSU did not provide documentation of correspondence from the Program Officer directing it to treat MOSA funds differently from other program expenditures. OSU did not provide support for its assertion that the MOSA surplus noted in the report came from other Federal and Nonfederal sources. Our analysis of NSF drawdowns found no indication that the surplus includes funds from other sources. We reaffirm this finding. We express no opinion on the Specialized Service Facility best practice as it is outside the scope of this audit.

OSU Could Not Provide Assurance It Will Spend MOSA Funds as Intended

OSU did not have supporting and source documentation for the MOSA funds it received and we could not match the amounts OSU received to individual expenditures, as required by OMB

³ 2 CFR 220 Appendix J; 2 CFR 215.22; 2 CFR 200.305; NSF's Award and Administration Guide (NSF 15-1), Chapter III, Section C.2.a.; and OSU's Fiscal Policy Manual Number 105.400.160 B



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Circular A-110 and 2 CFR 200.⁴ Rather than the required expenditure records, OSU provided budget pages from its annual funding proposals and memos of account transfers instead of receipts. Although past MOSA expenditures appeared to be reasonable, allocable, and allowable, OSU could not provide assurance the funds received in advance of actual need will be spent as intended.

Summary of OSU's Response: OSU agreed with this finding and recommendation.

OSU Submitted Inaccurate Annual Reports and Overstated MOSA Funding Requirements

In its annual reports to NSF, OSU incorrectly reported spending all the MOSA funds it received from NSF in the same year they were received. Because OSU's annual reports did not account for the funds it had not spent in each year, the funding request for each subsequent year was overstated. If OSU had accurately reported the unspent MOSA balances, it could have requested less NSF funding. Table 1 illustrates MOSA funding requests and expenses during the audit period.

Table 1: MOSA Funding Requests and Expenditures, by year

Year	MOSA Funding Requests	MOSA Expenditures	Annual Difference	Cumulative Surplus
2012	\$619,284	\$598,588	\$20,696	\$20,696
2013	\$697,295	\$204,644	\$492,651	\$513,347
2014	\$562,800	\$1,050,872	(\$488,072)	\$25,275
2015	\$305,200	\$15,459	\$289,741	\$315,016
Total	\$2,184,579	\$1,869,563	\$315,016	

Source: OIG Analysis of NSF and OSU budget and financial records

Summary of OSU's Response: OSU agreed with this finding and recommendation.

OSU Should Return Improper Salary and Related Charges

OSU charged \$5,130 of improper salary, benefits, and indirect costs for an employee who did not work on R/V Oceanus. OSU identified the charges during our audit and brought the issue to our attention. OSU provided documentation showing it removed \$2,080 of these incorrect charges from the current cooperative agreement in March 2016. Of the remaining \$3,050 of the questioned costs, \$2,426 was charged to the prior cooperative agreement that expired August 31, 2012, and \$624 was charged to the current cooperative agreement. OSU needs to return the remaining \$3,050 to NSF to correct the improper charges.

⁴ OMB Circular A-110, Sections 215.21(b)(2) and (b)(7) and 2 CFR 200, Section 200.302(b)(3)



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Summary of OSU's response: OSU concurs with this finding and recommendation.

Conclusion

OSU's practice of requesting Federal funds for MOSA in advance of actual need is not allowable under Federal requirements and placed NSF funds at heightened risk of misuse. Additionally, OSU could not provide assurance it will spend MOSA funds as intended because the university did not maintain the required supporting and source documentation. Finally, because OSU did not accurately reflect the MOSA funding surplus in its annual reports to NSF, OSU overstated its annual budget requests and thus accumulated a surplus of NSF funds.

Recommendations

We recommend that NSF's Director of the Division of Institution and Award Support request that OSU:

1. Return the \$315,016 of unexpended MOSA funds to NSF and limit future NSF drawdowns to amounts already expended or anticipated to be expended within 3 days of the drawdown, as required by NSF policy.
2. Work with the NSF Program Officer to ensure annual financial reports and funding requests properly account for and apply any residual funding balances.
3. Return the \$3,050 charged for an employee who did not work on the ship.



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Appendix A: Awardee Response



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January 9, 2017

Daniel J. Buchtel
Director, External Audit
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Oregon State University has reviewed the draft report from the National Science Foundation's Office of Inspector General received on December 9, 2016. We appreciate the opportunity to review and comment on the proposed recommendation in advance of the report's issuance.

The NSF IG team with whom we worked has been professional, and responsive to our questions, and working with them has been a positive experience.

Oregon State University's responses to the three recommendations are provided below:

Recommendation 1 – Return \$315,016 of unexpended MOSA Funds to NSF and limit future drawdowns to amounts already expended or anticipated to be expended within three days of the drawdown.

Oregon State University (OSU) agrees that the current cost accumulation methodology for the Major Overhaul and Stabilization Account (MOSA) and its associated drawdowns should be modernized. We are committed to working with the NSF to implement modifications.

OSU has been accumulating and expending MOSA funds, based upon the 2011 ship operations proposal submission guidelines (NSF 04-052), the General Programmatic Terms and Conditions for NSF 04-052 that was referenced in the award document (copy attached), and guidance from the NSF Ship Operations Program Director. All MOSA funds are held in an account specifically designated for major overall and repair expenses and are only expended after review and approval by the NSF Program Staff.

MOSA funding is a component of the daily rate charged to all vessel users and the unexpended MOSA balance reflected in the audit report includes funds collected from NSF, the Office of Naval Research, the National Oceanic and Atmospheric Administration, and the State of Oregon as well as other vessel users. These funds are set aside for required major overhaul and repair expenses such as main engine rebuilds or dry dockings. For example, the R/V Oceanus is due for dry dock work in February of 2017. Upon approval for these required major overhaul/repair expenditures by the NSF Project Officer, the unexpended MOSA funds will be utilized to cover those expenses.



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The unexpended MOSA Funds are critical to complete necessary repairs and refurbishment for the vessel to sail safely in support of already-funded science, and scheduled voyages, for the oceanographic research community for the period covered by the cooperative agreement. If OSU returns the recommended amount, it is unclear whether this action would put us in conflict with the General Programmatic Conditions. OSU is committed to continuing this conversation with NSF.

As a result of our discussion with the IG team, we reached out to other vessel operators in the University-National Oceanographic Laboratory System (UNOLS) fleet to understand the best MOSA-costing practices being utilized. This research identified that a Specialized Service Facility (SSF) model for ship operations has become a common practice by UNOLS vessel operators. The SSF model presents a much clearer and more transparent model for accumulating MOSA funds for deferred maintenance. It also is in line with the guidance provided in 2 CFR 200.468. OSU will work with NSF to explore implementing this model for the R/V Oceanus operations once the existing cooperative agreement ends in 2017.

Recommendation 2 – Work with the NSF Program Officer to ensure annual financial reports and funding requests properly account for and apply any residual funding balances.

OSU concurs with the recommendation. As noted in our response to Recommendation 1, we welcome the opportunity to work with the NSF Program Officer to incorporate best practices and will obtain written guidance to support these practices.

Recommendation 3 – Return the \$3,050 charged for an employee who did not work on the ship.

OSU concurs with the recommendation, and will promptly return these funds when instructions are provided. We will continue to enhance our internal controls to prevent a reoccurrence.

OSU appreciates the Inspector General's views, recommendations and observations. We believe this audit has provided an opportunity to review the university's current practices and identify areas for improvement. Further, the audit fully supports OSU's commitment to compliance and alignment with best practices.

Thank you again for the opportunity to provide comment on the draft report before its final issuance.

Sincerely,

Cynthia Sagers, PhD
Vice President for Research



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Appendix B: Objective, Scope, and Methodology

The objective of this performance audit was to determine if costs claimed are allowable, allocable, reasonable, and in conformity with NSF award terms and conditions and applicable Federal requirements. To accomplish this objective, we examined both awards for which costs were reported to NSF during the period of January 1, 2012, through December 31, 2015. This provided an audit universe of \$11,402,944 in costs claimed by OSU under two cooperative agreements. Our work required reliance on computer-processed data obtained from OSU and NSF. OSU provided detailed transaction data for examined costs charged to NSF awards during the audit period. We obtained NSF data by directly accessing NSF's various data systems.

In assessing the allowability of costs OSU reported to NSF, we also gained an understanding of the internal control structure applicable to the scope of this audit through interviewing OSU staff, reviewing policies and procedures, conducting site visits as applicable, and reviewing ledger transactions and accounting system and database documentation. We assessed OSU's compliance with internal university and Oregon University System policies and procedures, as well as the following:

- Office of Management and Budget Circular A-21, Cost Principles for Educational Institutions (2 CFR, Part 220)
- Office of Management and Budget Circular A-110, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-profit Organizations (2 CFR, Part 215)
- Office of Management and Budget Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR, Part 200)
- National Science Foundation Proposal and Award Policies and Procedures Guide, Part II: Award & Administration Guide
- Award-specific terms and conditions

We identified instances of noncompliance resulting in questioned costs that are discussed in the relevant sections of this report.

We conducted this performance audit between January 2016 and September 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions, based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions.

We held an exit conference with OSU management on September 16, 2016.



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Appendix C: OIG Contact and Staff Acknowledgments

Daniel Buchtel, Director, External Audits; Keith Nackerud, Senior Management Analyst; Jeremy Hall, Management Analyst; Darrell Drake, Independent Report Referencer; Billy McCain, Independent Report Referencer; Holly Snow, Audit Manager; and Elizabeth Argeris, Communications Analyst, made key contributions to this report.