

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

## **MEMORANDUM**

**DATE:** September 28, 2012

**TO:** Ms. Martha Rubenstein

Office Head and Chief Financial Officer

Office of Budget, Finance, and Award Management

National Science Foundation

**FROM:** Dr. Brett M. Baker /s/

Assistant Inspector General for Audit

**SUBJECT:** Audit of NSF's Management of Contingency in the EarthScope

Awards, Report No. 12-2-010

Attached please find the final report on the subject audit. The report contains one finding on NSF's award, management, and oversight of contingency for the EarthScope project.

In accordance with Office of Management and Budget Circular A-50, *Audit Followup*, please provide a written corrective action plan within 60 days to address the report recommendations. This corrective action plan should detail specific actions and milestone dates.

We appreciate the courtesies and assistance provided by so many NSF staff during the review. If you have any questions, please contact Marie Maguire, Senior Audit Manager, at (703) 292-5009.

#### Attachment

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# **Audit of NSF's Management of Contingency** in the EarthScope Awards

**National Science Foundation Office of Inspector General** 

> September 28, 2012 OIG 12-2-010



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## Introduction

In recent years, NSF has instituted a policy of ensuring that its large facility construction projects do not exceed their planned budgets by requiring a level of "contingency" costs in the initial proposed budget. At the end of fiscal year (FY) 2011, NSF had 9 projects with a total awarded amount of approximately \$1.9 billion that included nearly \$334 million (18 percent) for contingency. Project management, especially for projects of this scale and complexity, requires a higher level of planning and risk management. Proposal budgets create a basis upon which awardees can draw down funds over the course of the award for specific cost items and serve as a tool for managing the progress of the project.

Federal cost principles define how award funds may be budgeted and spent. Among other things, OMB Circulars do not allow "[c]ontributions to a contingency reserve or any similar provision made for events the occurrence of which cannot be foretold with certainty as to time, intensity, or with an assurance of their happening." Audits of the Ocean Observatories Initiative (OOI), the Advanced Technology Solar Telescope (ATST), and the National Ecological Observatory Network (NEON), three of NSF's large facility construction projects, revealed significant problems with proposed budgets for these projects.

Auditors found that the proposed \$386.4 million budget for OOI contained \$88.1 million in unallowable contingency funds. This finding was based on a lack of evidence to support that the amounts budgeted were for events that could be "foretold with certainty as to time, intensity, or an assurance of their happening." Follow-up audit work which examined how the contingency costs were estimated concluded that the contingency amounts were not supportable as required by OMB, confirming the original finding that the \$88.1 million was unallowable. In the case of ATST, auditors found that the \$298 million cost proposal contained \$62.3 million in unallowable contingencies, and most recently auditors identified \$74.2 million in unallowable contingency costs budgeted in the \$433.8 million unauditable cost proposal for NEON. In total, audits have identified over \$224.6 million in unallowable contingency costs out of total proposed costs of over \$1.1 billion.

Because of the large dollar amounts associated with contingencies in NSF awards, the risk posed by NSF's current process of funding these costs, and the complexity of the issue, we conducted an audit of the construction portion of the EarthScope-Acquisition, Construction, and Facility Management project (EarthScope), a closed award to examine NSF's management and oversight of contingencies. This project was awarded in 2003 for approximately \$197.4 million, including an estimated \$10.5 million for contingency. EarthScope was comprised of four individual cooperative agreements awarded to three separate entities.

The following details the specifics of each award:

SUMMARY OF EARTHSCOPE CONSTRUCTION AWARDS WE REVIEWED		
Awardee	Project Name	Total Awarded Amount
Incorporated Research Institutions for Seismology (IRIS)	EarthScope Facility Office (Facility Office)	\$ 4,295,263
Stanford University	San Andreas Fault Observatory at Depth (SAFOD)	24,569,658
IRIS	United States Seismic Array (USArray)	68,765,256
UNAVCO, Inc.	Plate Boundary Observatory (PBO)	99,790,540
	Total	\$197,420,717

# NSF's Award, Management, and Oversight of Contingency for the EarthScope Project Did Not Safeguard Federal Funds

We found that the proposed contingencies for the EarthScope project were not supported by cost data and were not compliant with the OMB cost principles. Once the awards were made, the awardees had immediate access to the contingency funds. We also found a weak management control environment that undermined NSF's ability to manage contingencies. As a result, NSF needs to implement additional internal controls to reduce the risk of misuse or abuse of contingency funds.

# Unallowable Contingency Included in Each of the Four EarthScope Awards

Project officials included unallowable contingency in budget proposals at NSF's direction. The inclusion of contingency was unallowable based on OMB Circulars, which state that "contributions to a contingency reserve or any similar provision made for events the occurrence of which cannot be foretold with certainty as to time, intensity, or with an assurance of their happening are unallowable." That is, OMB requirements do not allow estimated contingency for unforeseeable events, the occurrence of which is uncertain and the effect cannot be measured precisely, to be placed on awards. Rather, contingency estimates are only allowable for events, which can be foretold with certainty as to time, intensity, or an assurance of their happening.

For the EarthScope project, NSF and the awardees used flat percentages to determine the contingency amounts for each award. We were unable to find, and project officials were unable to provide, any supporting evidence to show how these estimates were calculated, therefore, there was no evidence that they meet the cost principle's "with certainty requirement". Without that evidence, we concluded that the budgeted contingencies were unallowable.

Based on our review of the Project Execution Plans and on information from NSF and awardee officials, the estimated contingency amounts and percentages for the four cooperative agreements comprising the EarthScope awards were as follows:

- Facility Office –The estimated contingency was \$60,000 per year for 4 years, a total of \$240,000 for the award. This was 4 percent of the total estimated project cost.
- SAFOD The estimated contingency was approximately \$1.5 million which was based on flat percentages of drilling cost for each of the project's three construction phases: 8 percent for Phase I, 10 percent for Phase II, and 20 percent for Phase III.
- PBO The estimated contingency for the PBO award was \$5.25 million, or 5.5 percent of the total estimated project cost.
- USArray The initial contingency for the USArray award was estimated at almost \$3.5 million, or 5 percent of the total estimated project cost.

In 2011, NSF revised its contingency guidelines in its draft *Planning, Use, and Oversight of Contingency in the Construction of Large Facilities* document. These draft guidelines stated that NSF expects awardees to apply estimates of the likelihood of risk factors occurring and their impact on the project budget, which should prevent awardees from using flat percentages to estimate contingency. However, verifiable support sufficient to meet OMB requirements is still necessary in order for the contingency to be allowable.

# **Factors Contributing to the Award of Unallowable Contingency**

We identified two factors in NSF's process that contributed to the inclusion of unallowable contingencies in the EarthScope award. First, NSF did not require Earth Scope to submit Standard Form 424C (BUDGET INFORMATION—Construction Programs). Form 424C displays budget line items for activities such as equipment, demolition, engineering fees, and site work as well as contingencies; total allowable and unallowable costs for each budget line item are also recorded on the Form. With this form, contingent events that did not meet the certainty requirement of the cost principles would be subtracted from the project's total costs, leaving only allowable contingency costs in the total allowable costs column. Those events that did not meet the certainty requirement would be placed in the costs not allowable column. The form that NSF required the awardees to submit did not include a line item for contingencies, nor did it include columns for allowable and unallowable costs. Use of the Form 424C (or one like it) would have enabled NSF to clearly identify contingency amounts, and to further distinguish between amounts that were allowable versus amounts that were not. The unallowable contingency (i.e., that for unforeseeable events) should be budgeted for by NSF, but would not be placed in the award until the awardee demonstrates a bona fide need supported by verifiable cost data.

It is worth noting that in 2006, NSF began withholding the annual contingency budget from the awardees' annual funding increments and centrally managing it. NSF elected to keep the contingency funds within the Major Research Equipment and Facilities Construction (MREFC) account. In most cases, NSF awarded the contingency amount as separate funding increments to awardees after a change order had been submitted and approved. However, this is not NSF's current process. Presently there are no

technical barriers to prevent awardees from drawing down the contingency funds at any point in the project and using them for any purpose.

Second, NSF's policies and procedural guidance were not sufficient to prevent unallowable contingency (i.e., for unforeseeable events) from being placed into the awards. During the EarthScope project, NSF and the awardees were relying on the following separate internal guidance documents:

- Facilities Management & Oversight Guide (July 31, 2003) replaced by the Large Facilities Manual (May 2007, revised September 2009)
- NSF Risk Management Guide (May 2004 draft)
- Definition and Use of Contingency Resources in NSF Facility Construction (May 6, 2004 draft)
- Guidelines for Development of Project Execution Plans for Large Facilities (August 26, 2004 draft)
- Guidelines for Reviews of Large Facilities (September 29, 2005 draft)
- Guidelines for Planning and Managing the Major Research Equipment and Facilities Construction (MREFC) Account (November 22, 2005)
- Guidelines for Development of Internal Management Plans for Large Facilities (November 14, 2008 draft)

Some of these documents defined contingency differently and none of the contingency definitions reflected the OMB cost principles, which distinguish between foreseeable and unforeseeable events. For example, NSF's Definition and Use of Contingency Resources in NSF Facility Construction defined contingency as "the portion of the project's construction budget that is held in reserve to accommodate unknowns relating to the requirements and the uncertainty that are within the scope of the project." At the same time, the 2004 Risk Management Guide stated that "Contingency is the amount added to an estimate to allow for items, conditions, or events for which the state, occurrences, and/or effect is uncertain and that experience shows will likely result, in aggregate, in additional costs." This document also states that "Contingency usually excludes items such as major scope changes...," while the July 2003 Facilities Management and Oversight Guide states that "Contingency is used for additional scope and work to meet the necessary requirements of the project." NSF's definition of contingency should be consistent with the OMB cost principles to ensure NSF's compliance with OMB requirements, and should be consistently articulated in NSF quidance. A lack of clarity as to what constitutes contingency could undermine the agency's ability to oversee contingency funds.

# Weak Management Control Environment Undermined Ability to Manage Contingencies

We found that problems with the control environment governing contingencies undermined NSF's (and our) ability to ensure that contingencies were used appropriately. Importantly, we determined that two of the awardees (Stanford University and UNAVCO), which expended nearly \$7.9 million of contingency funds, did not separately track contingency expenditures in their accounting systems. Thus, we could not confirm that the awardees spent the contingency funds for items requested in the

change orders. The inability to determine what the contingency funds were actually used to purchase is particularly concerning because these two awardees spent approximately 75 percent of the contingency funds associated with the EarthScope project.

In addition, NSF lacked visibility over EarthScope's expenditure of contingency funds because its process, prior to centrally managing contingencies in FY 2006, permitted the awardees to approve all change order requests for \$250,000 or less to the MREFC account or \$100,000 or less to the operations and maintenance yearly cost without NSF's review or approval. We found that prior to FY 2006, awardees had approved all 9 of the existing contingency change orders totaling over \$1 million. Eight of these change orders totaling almost \$960,000 were for changes related to the SAFOD project. This approval process limited NSF's ability to ensure that the requests and approval for the use of contingency funds were appropriate.

Finally, our review of the EarthScope awards surfaced instances in which NSF approved the use of contingency funds for matters that did not appear to represent the materialization of contingent events. For example, the Facility Office project used \$47,271 to hire a publications coordinator. The USArray project used \$728,875 to fund an increase in the general and administrative rate, a large portion of which was due to the awardee retaining space NSF told them it would not support, and another \$399,433 for an off-site data archiving and distribution center.

By using contingency funds for expenses that do not appear to relate to contingent events, there is a risk that there will not be sufficient funds available if true contingent events occur. There is also a risk that project cost overruns will be obscured when contingency funds are used for expenses that are not related to contingent events.

# **Conclusion and Recommendations**

The illustration below summarizes weaknesses related to NSF's process for award, management, and oversight of contingency in the EarthScope project.

## Proposal Budget

Change Orders
Approved by Awardee

NSF's Process for Approving Contingency Requests

- No Form 424C to identify contingency costs or to segregate unallowable and allowable contingency costs.
- No identification of specific contingent events.
- No verifiable cost data to support budgeted contingency.
- Contingency amounts determined by using flat percentages.
- •Awardees could spend up to \$250,000 of MREFC contingency funds without NSF approval before NSF began withholding the annual contingency budget from the awardees' annual funding increments in 2006.
- Awardee does not have to show "bona fide" need for contingency supported by current, accurate, and complete cost data.
- •Some contingency funds spent on non-contingent costs.
- •Two awardees, which expended 75 percent of EarthScope contingency funds, did not separately track contingency expenditures, so NSF was unable to determine what was actually purchased with contingency funds.
- The definition of contingency in NSF's policies and procedures is not consistent with the OMB cost principles.

As shown, and discussed herein, NSF's award, management, and oversight of contingencies for the Earth Scope construction project did not comply with federal requirements. NSF permitted the awardees to include unallowable contingency, which was not based on adequate, accurate, current cost data, in its proposal budgets. Once the awards were made, NSF permitted the awardees to spend contingency funds without demonstrating a "bona fide" need that met federal requirements. These management practices increased the risk of misuse and abuse of contingency funds.

## Recommendations

We recommend that the NSF Chief Financial Officer take appropriate action to improve its award, management and oversight of contingency funds by strengthening its guidance, processes and internal controls. Among other things, the agency should:

- Require awardees to use Standard Form 424C or an equivalent form (which clearly identifies amounts needed for contingencies and distinguishes between allowable and unallowable costs) when submitting proposals for construction projects;
- 2. Require awardees to support contingency estimates in budget proposals with adequate supporting cost data;
- 3. Only include amounts for allowable contingencies in awards;

- 4. Ensure that internal contingency policies and procedures reflect OMB cost principles for contingency; and
- 5. Retain control over funds budgeted for unforeseeable events and release the funds only when the awardee demonstrates a bona fide need supported by verifiable cost data.

# **Summary of Agency Response and OIG Comments**

NSF concurred with recommendation 1, and agreed to require awardees to use Standard Form 424C or an equivalent form when submitting proposals for construction projects. We consider NSF's comments and planned action to be responsive to this recommendation.

NSF's position is that it is already in compliance with recommendation 2, but the agency agreed to re-examine its procedures in this area. While NSF may have made improvements in this area, during the EarthScope project, flat percentages, without supporting documentation, were used to estimate contingencies. If the results of NSF's reexamination of its procedures require adequate supporting documentation of estimates, then we consider this to be responsive to our recommendation.

NSF's position is that it is already in compliance with recommendations 3 and 4. NSF replied that OMB has explicitly stated to NSF that contingency budgeting for large construction project is an essential aspect of managing allowable costs resulting from foreseen, anticipated events. NSF states that it is allowable for contingency amounts to be explicitly included in budget estimates to the extent that they are necessary to improve the precision of those estimates. As such, according to NSF, contingency amounts are to be included in the awards and to be expended during project execution. However, we disagree with NSF on this position. Per the OMB cost principles, "contributions to a contingency reserve or any similar provision made for events the occurrence of which cannot be foretold are unallowable." NSF's current policies and procedures allow items that are unforeseeable to be added to an award, thus it is our position that NSF is not in compliance with the OMB cost principles or our recommendations. The intent of these two recommendations is to allow NSF to budget for all types of contingency (foreseeable and unforeseeable), but to not include in the award the estimated amount for items which cannot be foretold with certainty as to time, intensity, or with an assurance of their happening. Rather, NSF can provide funds to the awardees after the unforeseen contingent events occurred and the awardees provide information to support the amount requested. Therefore, we do not consider NSF's comments to be responsive to these two recommendations.

Finally, NSF disagrees with recommendation 5 to the extent that our intention is to exclude the budgeting of contingency estimates for events "the occurrence of which

cannot be foretold with certainty as to time, intensity, or with an assurance of their happening." Again, our intention is not to prevent NSF from budgeting for these events. NSF should internally budget for these events, but not include the estimated amounts in the award or make the funds available for the awardee to obtain through the cash draw down process. Rather, NSF should maintain control over the budgeted contingency funds and release the funds to the awardee after it has demonstrated a need for the funds and provided support for the amount requested. Additionally, this step will act as a stronger internal control over the appropriate expenditure of contingency funds. Therefore, we do not consider NSF's response to address this recommendation.

We look forward to receiving the Corrective Action Plan and working with NSF officials to resolve the recommendations.

We have included NSF's response to this report in its entirety as Appendix A.

# **OIG Contact and Staff Acknowledgements**

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In addition to Ms. Maguire, Susan Carnohan, Lisa Hansen, Ken Lish, and Brittany DiChello made key contributions to this report.

# Appendix A: Agency's Response

#### NATIONAL SCIENCE FOUNDATION 4201 WILSON BOULEVARD ARLINGTON, VIRGINIA 22230

#### MEMORANDUM

DATE: September 25, 2012

TO: Dr. Brett M. Baker

Assistant Inspector General for Audit

FROM: Ms. Martha Rubenstein Www

Office Head and Chief Financial Officer

Office of Budget, Finance, and Award Management

SUBJECT: NSF Response to OIG Report, Audit of NSF's Oversight of Awardee Expenditures of

Contingency

Below is the Foundation's response to the subject audit report. Please let me know if you have any questions.

#### Recommendation 1:

Recommendation – Require awardees to use Standard Form 424C or an equivalent form (which clearly identifies amounts needed for contingencies and distinguishes between allowable and unallowable costs) when submitting proposals for construction projects.

Agency Response – NSF agrees to implement this recommendation. However, please note that the Standard Form 424 series is a non-mandatory federal form, and given current agency standards for preparing and presenting construction cost estimates, including contingency estimates, use of Standard Form 424C is considered by NSF to be redundant. Additionally, please be aware that instructions for completion of Form 424C clarify that "allowability," as defined in the instructions for the form, relates to the allowability of costs for federal assistance, and not for allowability of costs as defined in the applicable OMB cost principles.

#### Recommendation 2:

Recommendation – Require awardees to support contingency estimates in budget proposals with adequate supporting cost data.

Agency Response – NSF believes that it is already in compliance with the requirement that contingency estimates in budget proposals be adequately supported; however, NSF agrees to re-examine its procedures in this area.

As previously disclosed to the OIG, NSF has determined that including amounts for contingency, estimated in accordance with broadly-accepted estimating practices, in proposal budgets provides for greater precision in those budgets and meets the test of reasonableness set forth by the relevant cost principles. Application of these broadly-accepted practices does not yield cost data disaggregated by cost element; rather it results in an aggregate amount that is added to the estimate to account for cost, technical and schedule risk (i.e., the "risk adjusted" Total Project Cost (TPC) estimate). Yet the recognized standard for assessing cost reasonableness states that consideration shall be given to requirements imposed by, inter alia, generally accepted sound business practices. NSF has identified several authoritative government and industry publications advocating the practices adopted by the Agency in its Large Facilities Manual and Definition and Use of Contingency Resources in NSF Facility Construction guide. NSF currently believes that it is in compliance with requirements for adequate supporting documentation for contingency estimates established within these procedures, however, as noted above, NSF agrees to re-examine this area.

#### Recommendations 3 & 4:

Recommendation 3 - Only include amounts for allowable contingencies in awards.

Recommendation 4 – Ensure that internal contingency policies and procedures reflect OMB cost principles for contingency.

Agency Response – NSF believes that it is already in compliance with these recommendations. NSF's policy on the use of contingency estimates in the budget estimating process for large Major Research Equipment and Facilities Construction (MREFC) projects has been discussed with OMB and our understanding is that OMB agrees with the NSF policy. Specifically:

"Contingency," is that part of a budget estimate of future costs, typically of large construction, IT systems, or other items as approved by the awarding agency. These costs are associated with possible events or conditions arising from causes, the precise outcome of which is indeterminable at the time of estimate, and that experience shows will likely result, in aggregate, in additional costs.

It is allowable for contingency amounts to be explicitly included in budget estimates to the extent they are necessary to improve the precision of those estimates. Amounts must be estimated using broadly-accepted cost estimating methodologies. As such, contingency amounts are to be included in the award, and to be expended during project execution. Actual costs incurred must be allowable under these cost principles, necessary and reasonable for proper and efficient accomplishment of project or program objectives, and verifiable from the recipient's records. Amounts for major project scope changes, unforeseen risks or extraordinary events shall not be included.

Payments made by the Government to a Recipient "contingency reserve" or any similar payment made for events the occurrence of which cannot be foretold with certainty as to the time, intensity, or with an assurance to their happening are unallowable, except under special circumstances such as regarding self-insurance, pensions, severance and post-retirement health costs.

OMB has explicitly stated to NSF that contingency budgeting for large construction projects is an essential aspect of large facility construction projects, in line with construction industry standards for managing allowable costs resulting from foreseen, anticipated events resulting from three project elements – budget, scope and timeline, and is therefore allowable.

#### Recommendation 5:

Recommendation – Retain control over funds budgeted for unforeseeable events and release the funds only when the awardee demonstrates a bona fide need supported by verifiable cost data.

Agency Response – NSF disagrees with this Recommendation, to the extent that the OIG's intention by the Recommendation is to exclude from the budgeting of contingency estimates events "the occurrence of which cannot be foretold with certainty as to time, intensity, or with an assurance of their happening." In questioning the use of contingency in budget estimates, the OIG places reliance on the provision in OMB's Cost Principles (2 CFR 220, Appendix A and 2 CFR 230, Appendix B), which both include text substantially the same as cited in the report. However, the introductory text for each distinguishes between cost estimates and actual cost incurred by stating that the purpose of the paragraph is to establish the "allowability of certain items of cost."

Items in a budget estimate are not actual costs, they are forecasts, based on best practices and information, of what the parties may expect the costs to be; and this is especially vital in the construction environment in developing a prudent cost basis for a large scale, long term project where actual costs are not easily pinpointed during the planning phase. Once an item included as a contingency in the budget estimate has matured into an actual cost, the Cost Principles are applied to determine if that cost is allowable under the award. At that point, however, it is not payment to a contingency reserve, which is prohibited as a cost by the Cost Principles; rather, it is a specific item of cost. This is not a technical distinction or nuance, but reflects how actual costs (not cost estimates) are treated under relevant OMB regulations, guidelines and circulars.

OMB has concurred with NSF's interpretation of the relevant cost principle; i.e., that contingency as it relates to proposal budgets for construction projects and as part of the resulting award, is appropriate.

Finally, as noted in our response to Recommendations 3 and 4 above, contingency estimates do not include estimates for unforeseen risks.

cc: Subra Suresh Cora Marrett Joanna Rom Clifford Gabriel

# Appendix B: Objectives, Scope, and Methodology

The objectives of this audit were to examine the sufficiency of the National Science Foundation's oversight of awardees' expenditure of contingency and to assess whether the awarded contingency funds were spent in accordance with the terms of the award. Due to limited visibility of awardee expenditure data, we were unable to address the latter objective. The scope of our audit focused on a single closed project. We reviewed seven construction projects with contingency that were either closed or nearing completion at the time of fieldwork. We selected the construction portion of the EarthScope-Acquisition, Construction, and Facility Management project (EarthScope), which consisted of four cooperative agreement awards for the following projects: the Plate Boundary Observatory (PBO), the San Andreas Fault Observatory at Depth (SAFOD), USArray, and the EarthScope Facility Office.

We conducted this performance audit from February 2011 to August 2012, at NSF in Denver, Colorado and Arlington, Virginia. To answer our objectives, we obtained information on the contingency from NSF's eJacket reporting system, NSF officials, and EarthScope personnel for the project period of September 1, 2003 through September 30, 2009. We gained an understanding of NSF's oversight and management responsibilities regarding how contingency funds were requested, awarded, and managed.

## To meet our objectives, we:

- Obtained and reviewed relevant laws, regulations, policies, and procedures,
- Obtained and reviewed prior Federal audits and reviews,
- Communicated with the NSF OIG Office of Investigations,
- Consulted with NSF OIG Legal Counsel,
- Interviewed NSF officials,
- Obtained and reviewed contingency change orders and supporting documentation for each of the four awards,
- Communicated with awardee officials, and
- Reviewed IRIS' expenditure of contingency for the Facility Office and USArray projects to assess the appropriateness of usage.

We reviewed NSF's compliance with applicable provisions of pertinent laws and regulations including:

- 2 CFR Part 220, Cost Principles for Educational Institutions (formerly OMB Circular A-21),
- 2 CFR Part 230, Cost Principles for Non-profit Organizations (formerly OMB Circular A-122), and
- 2 CFR Part 215, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations (formerly OMB Circular A-110).

As discussed in this report, we found that NSF was not in compliance with these regulations because it permitted inclusion of unallowable contingency in the awardees' budgets, which is inconsistent with OMB's cost principles. Specifically, NSF required the awardees to set aside contingency funds that were not for events which can be foretold with certainty as to time, intensity, or with an assurance of their happening, as required by these regulations

We also obtained an understanding of the management controls over NSF's process for reviewing, managing, and overseeing contingency through interviews with NSF officials and staff and by reviewing NSF policies and procedures. We identified internal control deficiencies, which we discuss in this report. However, we did not identify any instances of fraud, illegal acts, violations, or abuse.

During the course of this audit, the auditors relied on information and data received from the EarthScope awardees and NSF officials in electronic format that had been entered into a computer system or that resulted from computer processing. We did test the reliability of the data by corroborating it between the awardee and NSF records. We also tested the reliability of the awardees' financial data by corroborating the results with NSF's Federal Financial Reports. We also obtained information from NSF's eJacket, which serves as a repository for all documents related to a specific proposal or award from all of NSF's central information systems.

We conducted this performance audit 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 based on our first audit objective to examine the sufficiency of NSF's oversight of awardees' expenditure of contingency.

We held an exit conference with NSF officials on August 30, 2012.