

# **Audit of Effort Reporting System**

**Cornell University  
Ithaca, New York**

**National Science Foundation  
Office of Inspector General**

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## Executive Summary

This audit report provides the results of our review of the effort certification system used by Cornell University (Cornell) to validate salaries and wages charged to National Science Foundation (NSF) grants. In fiscal year (FY) 2007, Cornell's Federally-sponsored projects totaled approximately \$262 million, of which \$124 million were funded by NSF. Of the \$124 million, more than \$38 million were for labor costs directly charged to NSF awards. This audit is one in a series of Office of Inspector General (OIG) reviews of the labor effort distribution systems being conducted at NSF's top-funded universities. The review's main purpose is to determine whether the internal controls over salary and wage costs claimed on NSF grants are properly managed, accounted for, and monitored.

Our review disclosed that Cornell generally has a well established and sound Federal grants management system. Our review of 30 sampled employees found no specific misstatements of effort, but the University allowed labor costs charged to NSF awards be certified by employees without first hand knowledge or a suitable means of verification. Specifically, our audit found the labor costs for 8 of the 30 sampled employees, representing 19 percent of the salaries reviewed, were inadequately certified. This same weakness was also identified by Cornell's internal audit group more than two years ago.<sup>1</sup>

Labor costs certified by a person without first hand knowledge and without a suitable means of verification that the work was performed provides less assurance to Federal sponsoring agencies that salary charges to sponsored projects are reasonable. Specifically, of the \$1.07 million NSF salary charges sampled over \$208,000 (19 percent) were improperly certified. The nature of this control weakness coupled with the University administration delaying acting on internal audit recommendations, raises concerns about the reasonableness and allowability of the remaining \$38 million of FY 2007 labor charges to NSF grants, and could affect the reliability of the salary portion of Cornell's other \$262 million of Federal awards.

These weaknesses occurred because Cornell's policies and procedures did not,

- Adequately define what constitutes suitable means of verification, do not require certifiers to document how they obtained suitable means of verification, or hold certifying officials accountable for following certification policies and procedures;
- Require the training or involvement of key grants management personnel, namely principal investigators (PIs), in the effort certification process; and,
- Identify the use of group certifications whereby one administrative manager certifies multiple employees effort for an entire year with a single signature without supporting documentation from the employee or the PI.

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<sup>1</sup> The audit report was issued in February 2007 but the fieldwork began in October 2005.

Furthermore, as noted above, the University administration was notified of these weaknesses during an independent internal evaluation of the payroll distribution and effort reporting systems conducted by Cornell's internal audit group starting in October 2005. The report was issued in February 2007, which included a series of non-committal responses by Cornell administration. During our formal exit conference in April 2009, Cornell administration showed us evidence of meetings and changes to training materials addressing some of the issues, but the official policies of the University remained substantially the same when we reviewed them in early 2008. The University did not have procedures in place to revise policies in a timely manner in response to internal audit findings and recommendations.

During the course of the audit we noted that 21 of the 30 sampled employees, representing 44 percent of the salaries reviewed were certified more than a year after the beginning of the reporting period. This is five months longer than the average of other major universities included in the NSF-OIG's overall labor effort reviews up to this point. While this is not in conflict with Federal regulations it does increase the risk that effort could be certified erroneously as the certifier needs to recall actual effort more than a year after it was incurred.

We held an exit conference via telephone with officials at Cornell in April 2009. During that conference Cornell informed us of planned and/or completed changes to address the weaknesses we noted during our audit. Cornell officials submitted documentation to us shortly thereafter for our review. The proposed changes included developing a definition of "suitable means" and requiring training of all employees involved in the effort reporting process, including PIs. We commend Cornell for investing time to develop plans to address the weaknesses identified by our audit and the internal audit and believe that the proposed changes, if properly implemented, should strengthen Cornell's internal controls over effort reporting. Based on our review of Cornell's submission, we modified our recommendations.

To address the noted weaknesses, we recommended Cornell revise its policies and procedures to (i) define what constitutes *suitable means of verification* (ii) require certification by employees with first hand knowledge or certifiers with documented suitable means of verification, (iii) train all employees involved in the effort reporting process on a periodic basis, (iv) involve PIs directly in the effort certification process, (v) hold certifying officials accountable for following certification policies and procedures, and (vi) develop a process to adequately address recommendations by the internal audit group in a timely manner. In addition, Cornell can greatly enhance the reliability of its effort reporting system by eliminating group certifications and by certifying effort more often than once a year.

A draft audit report requesting comments on the findings and recommendations was issued to Cornell. The University mainly concurred with the audit findings and recommendations and agreed to implement the necessary changes to its policies and procedures by December 31, 2009. Cornell's proposed actions, once implemented, should address our audit recommendations. NSF should work with the cognizant audit

agency to ensure the University implements their proposed corrective actions to each audit recommendation. We have summarized the University's responses and provided our comments after each recommendation in the report. Also, Cornell's comments to the draft report are included in their entirety as Appendix B to this report.

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**ACRONYMS**

DFA-CCA	Cornell Division of Financial Affairs – Cost And Capital Assets
NSF	National Science Foundation
PI	Principal Investigator
OIG	Office of Inspector General
OMB	U.S. Office of Management and Budget
OSP	Office of Sponsored Programs
PCR	Plan Confirmation Report

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## INTRODUCTION

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### BACKGROUND

Approximately one third of the National Science Foundation (NSF) award funds are provided for salary and wages, amounting to about \$1.3 billion annually at universities. Also, in recent years, there have been several civil settlements involving overcharges of labor costs to Federal grants, amounting to millions of dollars at several major universities, including some funded by NSF. Because of these legal actions and the material amounts of labor costs paid from NSF awards, the Office of Inspector General (OIG) is undertaking a series of reviews of the labor effort distribution systems at NSF's top-funded universities in order to assess the adequacy of internal controls to ensure salary and wage costs claimed on NSF grants are properly managed, accounted for, and monitored. This audit, involving the Cornell University, is one of the planned reviews of such labor effort distribution systems.

According to Cornell University's website, its fundamental mission is to foster personal discovery and growth, nurture scholarship and creativity across a broad range of common knowledge, and engage men and women from every segment of society in this quest. They pursue understanding beyond the limitations of existing knowledge, ideology and disciplinary structure and affirm the value to individuals and society of cultivation and enrichment of the human mind and spirit.

The faculty, students, alumni and staff strive toward these objectives in a context of freedom and responsibility. Cornell University fosters initiative, integrity and excellence in an environment of collegiality, civility and responsible stewardship. As the land-grant University for the State of New York, Cornell University applies the results of its endeavors in service to its alumni, the community, the state, the nation and the world.

The total student enrollment for the fall semester 2006 consisted of over 13,000 undergraduate students and over 4,000 graduate students. The number of university staff included 1,600 faculty and about 1,200 academic staff (includes instructors, lecturers, teaching associates, research and extension associates, librarians, and archivists).

Cornell University derives the majority of its funding from sponsored projects, tuition and state subsidies. For fiscal year 2006-2007, the total sponsored projects awards totaled approximately \$366 million, which included approximately \$262 million from the Federal government, or 72 percent of total sponsored projects awards. In addition, approximately \$124 million, or 34 percent of total sponsored projects awards were provided by NSF.

The University's Office of Sponsored Programs (OSP) is responsible for the management and oversight of Federal grant programs. Primarily, OSP provides pre-award and post-award administrative services for sponsored programs. OSP develops Cornell policies and procedures for non-financial pre- and post-award Federal grants management. Cornell's Division of Financial Affairs – Cost and Capital Assets (DFA-

CCA) is charged with implementing appropriate training programs and policies for effort reporting. The Division of Financial Affairs - Sponsored Financial Services (DFA-SFS) is responsible for financial administration of grants while DFA-CCA is responsible for compiling, generating, and maintaining effort reports.

Senior administrative officials located within each academic department and research unit are tasked with the management and oversight of sponsored projects to ensure compliance with Federal and University policies and procedures. They typically assist and advise faculty members on Federal grants management and are responsible for ensuring that award accounts and budgets are created accurately in the University's financial system, award expenditures are monitored on a monthly basis, and charges to Federal awards are appropriate. Principal Investigators (PIs) have primary responsibility for all aspects of Federal grants including approval of all charges and ensuring that the research is conducted in accordance with the award terms and conditions.

### **Objective, Scope, and Methodology**

**Audit Objectives.** Our audit objectives were to: (a) evaluate whether Cornell internal controls are adequate to properly manage, account for, monitor, and report salary and wage costs on NSF grants in accordance with the U.S. Office of Management and Budget (OMB) and NSF grant requirements; and, (b) determine if salaries and wages charged to NSF awards are allowable, allocable, and reasonable in accordance with Federal cost principles and NSF award terms and conditions.

**Scope and Methodology.** The audit focused on Cornell's effort reporting system and accordingly reviewed internal controls for ensuring that labor costs charged to NSF (i) were actually incurred, (ii) benefited NSF awards, (iii) were accurately and timely recorded and charged to NSF, and (iv) were for allowable and allocable-type activities as required by Federal and NSF requirements. In addition, we evaluated if the level of PI effort pledged in grant proposals and award documents was actually contributed by the faculty member to accomplish award objectives.

To address each of the control objectives, the NSF OIG engaged a statistician to provide expert advice in selecting a statistical sample of employee salary records for testing. The use of statistical tools and methodology will enable projecting our audit results to the entire population of universities to be included in the planned reviews of payroll distribution systems nationwide. However, due to the small statistical sample size of 30 employees tested, we are not able to make any projections to the total Cornell population of labor costs charged to NSF grants. Specifically, the FY 2007 salary and wage costs for the 30 sample employees tested amounted to \$1,068,286. Our statistical sample was derived from Cornell employees who charged \$38 million of salaries to NSF grants during FY 2007. This population excluded (a) any employee with total salary costs of \$100 or less and (b) all salary charges for undergraduate students. These amounts were excluded because of their small dollar value and the difficulty in locating undergraduate students for personal interviews.



We interviewed key University officials and reviewed the organization structure and written policies and procedures to assess the “attitude” or “tone at the top” toward grants management and compliance in general as it affects effort reporting.

We compared Cornell’s policies and procedures to Federal and NSF requirements for allocating labor costs to Federal awards and interviewed Cornell personnel to gain an understanding of the controls in place to ensure salary and wages charged to NSF awards were reasonable and allowable. For each statistically selected salary record, we obtained the following documentation to determine whether labor costs Cornell charged NSF awards met the control objectives:

- Effort reports documenting 100 percent of each employee’s compensation allocated to sponsored and non-sponsored projects for each reporting period.
- Appointment letters or other documents supporting the approved annual salary for employees.
- Plan Confirmation Report system reports detailing the actual salary and wages charged to sponsored projects and other activities for each employee during each reporting period.
- Award documents to determine whether the grant had any terms and conditions that would affect allowable labor charges to the award.

To ensure that salary and wage costs charged to NSF awards were incurred and benefited NSF awards, we corroborated the information on the effort reports by interviewing the 30 sampled employees. We inquired whether (a) the labor charges documented were actually incurred on projects and activities, (b) the approximate percentage of effort actually worked on each sponsored project and/or activity was reasonably consistent with NSF labor charges, and (c) the type of work performed on NSF projects was generally consistent with the scope of the awards. In addition, we interviewed administrative officials in academic departments and research units of the sampled employees to determine how they met the Federal and University certification requirement on verifying effort reports to ensure the work was actually performed as shown on the reports. We also discussed with department and research unit administrative officials their procedures for processing and monitoring employee salary charges to Federal grants. Additionally, we interviewed selected PIs to determine the number of projects and personnel they were responsible for and their processes for verifying effort reporting.

To confirm that faculty effort pledged in grant proposals was actually contributed to accomplish grant objectives, we reviewed processes for reporting and tracking PI effort and [REDACTED]. We reviewed award documents for all Federal grants that a faculty member worked on during FY 2007 to determine the effort pledged on each project and compared this proposed effort to the

approximate percentage of actual effort worked on the project. In addition, we determined whether and how Cornell tracked and documented PI effort on sponsored projects when no faculty salary support was requested or reimbursed by the Federal Government.

To determine whether labor costs were accurately recorded and charged to NSF, we compared the amounts in appointment letters or other documentation supporting salaries and wages paid to the amounts recorded in the Plan Confirmation Report system for each individual in our selected sample. We recalculated salary and wage costs charged to NSF projects by using the salary shown on supporting documentation and apportioning it by the period of time and percent of effort represented on the effort reports. We also reviewed labor transactions to determine whether Cornell followed Federal, NSF, and University requirements on charging labor costs to NSF projects.

The audit determined whether Cornell officials certified effort reports in a timely manner by comparing the date the effort reporting period ended to the date the reports were certified. Timeliness was based on Cornell's internal policy requiring that effort reports are completed annually, reviewed, certified and submitted to DFA-CCA by July 31 of each year, which is 31 days after the end of the certification period end date of June 30 and 13 months after the start of the certification period.

Finally, we reviewed prior audit reports on Cornell's Federal grants management program performed by OMB Circular A-133 auditors and the University's internal auditors to determine whether there were any audit findings and recommendations on labor effort reporting. Specifically, we interviewed cognizant Internal Audit staff and reviewed the working papers, as needed, to gain an understanding of the scope and procedures used in any audits of Cornell's payroll distribution reporting system and/or University management of labor costs charged to Federal projects. We met with Cornell's A-133 auditors to discuss their overall audit scope and procedures used for reviewing salaries and wages charged to Federal awards and their review of the labor effort reporting system. Accordingly, we reviewed the most current A-133 audit working papers available during our site visit to ascertain the actual audit scope and procedures used by the auditors in order to (i) preclude any duplicative audit work and (ii) to determine the specific work performed on the labor effort reporting system.

Onsite audit work at the Cornell campus was performed during two 2-week periods in January and April 2008. The remainder of the audit work was completed through phone interviews, emails, and documentation requests through April 2009. We were engaged to perform the above audit objectives by the NSF OIG. 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 finding and conclusions based on our audit objectives.

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## FINDING AND RECOMMENDATIONS

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### 1. Labor Effort Certification System Not in Compliance with OMB Circular A-21

#### OMB Requirements and University Policy for Labor Effort Reporting

OMB Circular A-21, *Cost Principles for Educational Institutions*, requires certification of labor effort contributed by employees on Federal awards to reasonably reflect the actual labor effort contributed by the employee to meet the objectives of the award. The effort reporting system must provide for after-the-fact confirmation of employee activity by the employee conducting the work being reported or by an official that is in a position to know whether the work was performed. For example, a Principal Investigator (PI) with first hand knowledge of the work performed or an administrative official obtaining a suitable means of verification that the work was performed as shown on the effort report. The Circular also requires Universities to provide for periodic independent internal evaluations to ensure the effort reporting system's effectiveness and compliance with Federal standards. As such, "the recipient institution is responsible for ensuring that costs charged to a sponsored agreement are allowable, allocable, and reasonable under these cost principles" and "must provide for adequate documentation to support costs charged to sponsored agreements."<sup>2</sup>

Consistent with the Circular A-21 requirement for "sound business management practices," OMB Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organization*,<sup>3</sup> requires entities receiving Federal awards to establish and maintain internal controls that are designed to reasonably ensure compliance with Federal laws, regulations, and program compliance.

University Policy No. 3.11, Effort Planning and Confirmation, updated May 1, 2007, specified Cornell's approach for compliance with OMB Circular A-21. In addition, the Cornell University Division of Financial Affairs – Cost and Capital Assets (DFA-CCA) issued a policy statement regarding their Effort Planning and Confirmation process. It specified the University's policies and procedures regarding the planning, monitoring, and certification of the Plan Confirmation Report (PCR) by applicable office and department. It also listed the significant responsibilities assigned to the PI.

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<sup>2</sup> Paragraphs C.4.d. (1) and A.2.e., respectively, of OMB Circular A-21, *Cost Principles for Educational Institutions*.

<sup>3</sup> Section .21 of OMB Circular A-110, requires that a grantee's financial management system provide for "Effective control over and accountability for all funds, property, and assets. . . written procedures for determining the reasonableness, allocability and allowability of costs in accordance with the provisions of the applicable cost principles and terms and conditions of the award."

## Cornell's Effort Reporting System

Pursuant to the OMB requirements, Cornell established the PCR to document the after-the-fact certification of the reasonableness of salaries directly charged to sponsored projects and other activities on which an employee works. DFA-CCA electronically generates PCRs on a monthly basis and distributes them to departmental and unit offices, but there was no requirement for the departments to review them.<sup>4</sup> PCRs (effort reports) are certified only once a year. Cornell has a decentralized operational structure in which each department or unit is responsible for management of its Federal grants including certification of the PCRs. Cornell has a policy requiring officials signing effort reports to have a suitable means of verification that reported effort is accurate. However, the policy did not define what constituted a “suitable means of verification”; require documentation by the signing official that they obtained such verification, or hold certifying officials accountable for following certification policies and procedures.

Our audit of a sample of 30 employees, with over \$1 million in salary and wages charged to NSF, found that Cornell did not meet Federal requirements for certifying labor effort reports for NSF grants. Specifically, Department and unit administrative officials certified 8 of the 30 sampled employees even though they were not in a position to know whether the work was actually performed as shown on the effort reports. This same weakness was found in 2005 and 2006 as reported on by Cornell's internal audit group. Thus over \$208,000 or 19 percent of the total NSF labor costs reviewed were certified by officials without a suitable means of verifying an employee's effort on NSF grants.

This weaknesses occurred because Cornell, prior to FY 2008, did not place sufficient emphasis on effort reporting. Specifically, Cornell did not define in its policies what constituted a suitable means of verifying labor effort or establish adequate internal controls to provide for effective management and oversight of its labor effort reporting system. For example, Cornell did not train its PIs in effort certification policies and procedures and does not require their involvement in the certification process even though they are primarily responsible for managing NSF grants.

As a result, NSF has less assurance that Cornell effort reports are reliable in reasonably supporting salary and wages charged to sponsored projects. The significant nature of these control weaknesses raises concerns about the reasonableness and reliability of the \$38 million of FY 2007 labor charges to NSF grants that we did not review and the salary portion of Cornell's other \$262 million of Federal awards.

### Department Administrative Officials Certifying Effort Reports With No Suitable Means of Verification

Labor effort reports were certified by departmental administrative officials that did not have a suitable means of validating the effort charged to NSF grants. For example, the effort reports for the 8 employees we identified in our sample were certified by 7 departmental and unit administrative officials without adequate information or

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<sup>4</sup> Cornell has a cost transfer policy that requires bi-monthly review of a project's finances.

knowledge to verify that the work was actually performed.<sup>5</sup> The remaining 22 sampled employees consisted of two PIs, a temporary employee, five employees assigned to a unit with a supplemental timekeeping system,<sup>6</sup> four others assigned to a unique department,<sup>7</sup> and ten in which Cornell provided documentation after end of our fieldwork showing that the certifiers obtained suitable means. Although employees who conduct the work being reported and their PIs are the most knowledgeable for effort reporting, OMB Circular A-21 allows administrative personnel who have no first hand knowledge of the work performed to certify effort reports provided they have a suitable means to validate the effort. At Cornell, department administrative officials routinely certified effort reports using group certifications, in which all employees in a division were certified with a single signature. Specifically, ten of the departments and units included in our sample utilized group certifications which certified effort between 31 to 249 employees at the end of the annual certification period. We found inconsistencies in obtaining evidence of after-the-fact confirmation of effort related to this process. Officials stated they relied on informal discussions with the PI as a suitable means to validate the actual effort performed. However, some department officials obtained and documented suitable means from a PI, even though the policies did not require documentation. Also, because the PIs had no training in effort reporting requirements, it is uncertain whether the PIs knew what was required of them. Thus, it was unclear whether administrative officials were in a position to evaluate and validate the accuracy of the labor effort allocations to the various Federal awards, including NSF awards.

### Lack of PI Training

The PI is the individual with the unique knowledge of the day-to-day effort expended on a project and charged with managing that sponsored program. Cornell's policy of plan confirmation monitoring and certification has been essentially delegated to the units Business Managers/Administrators. The Business Managers/Administrators must work closely with the PI to ensure the accuracy of the PCR, especially at the time of the annual certification. Based upon discussion with several PI's, it became clear that they typically were not directly included in the PCR training process. Furthermore, Cornell only required one administrative person in a department to take the annual training. They then left it up to this employee to disseminate the training information to the PI and other project staff.

Throughout the course of the review, we became aware of a number of issues supporting the need for principal investigators to be trained regarding sponsored research

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<sup>5</sup> Note that one of the 8 employees had two different certifiers and one person certified two of the 8 employees.

<sup>6</sup> Five of the employees in our sample of thirty staff at Cornell used a weekly time tracking software system called REPLICON. This system is used by exempt employees in the Laboratory for Elementary Particle Physics (LEPP)/Cornell High Energy Synchrotron Source (CHESS). Due to the cost, detailed nature of this system, REPLICON would not be practical for all University departments; however it is an example of a supplemental system that provided evidence to support their labor charges.

<sup>7</sup> Our sample included 4 employees that were assigned to the National Atmospheric and Ionosphere Center in Arecibo, Puerto Rico. Their unique location on-site in the mountains of Puerto Rico with direct supervision by the PI and Administrative staff of the center provided adequate suitable means for certification of their labor effort. This lessens the risk of misstatement of the effort even on the annual basis of certification utilized by Cornell.

administration. For example, interviews with two PIs in our sample disclosed they were unsure of the university's policy regarding the 10 percent precision limit for significant changes as it pertains to effort reporting. PIs are integrally involved in the day to day oversight and management of the sponsored award. For this reason various university policies relating to sponsored research administration place a significant amount of responsibility on the PI.<sup>8</sup> While responsibilities are often delegated to administrative personnel, the PI is the individual with the unique knowledge needed to properly manage the sponsored award.

### University Audit Office Independent Evaluation

The Cornell University Audit Office issued their Research and Sponsored Programs Review on February 2, 2007. The review began in October 2005 and covered transactions for sponsored awards closed during the period January 2004 through December 2005 and Sponsored Program Services which administers awards for sponsored research, instruction and extension projects at Cornell.<sup>9</sup>

The audit identified several key areas and terms regarding effort planning and confirmation that were not addressed in Cornell's official policies and procedures by the time of our audit in 2008. The University Audit Office included these issues in their Research and Sponsored Programs Review report. The following terms were either not included in the University policy, were not defined or required guidance and clarification:

- Definition of "suitable means" including the proper application of the term to the effort certification process and the documentation requirements. Several departments/units indicated that effort tracking was discussed periodically with the PIs, but discussions were not necessarily documented in writing. In addition, some departments indicated that effort tracking is only discussed and documented once a year during the certification process.
- Clarification of the term, firsthand knowledge.
- Clarification of changes of 10 percent or greater as it applies to significant change in effort.

The University Audit Office noted that several departments utilize a group certification process instead of having each individual self certify, although University Policy No. 3.11, Effort Planning and Confirmation, states that certification should preferably be performed by the employee being certified. They noted the following issues with the group effort certification processes in various units:

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<sup>8</sup> Cornell Policy No. 3.11 Effort Planning and Confirmation assigns significant responsibilities to the PI.

<sup>9</sup> Sponsored Program Services was created in 2005 through the merger of the Office of Sponsored Programs and Sponsored Funds Accounting.

- The process did not include an after the fact confirmation of effort. While the unit management said on-going monitoring was occurring, there is no explicit review of the full year effort by the PI.
- The process focused on verification of effort directly charged to sponsored awards and the annual reports reviewed and approved by PIs did not include voluntary committed cost shared effort. In addition, no review was made of the allocation of effort to non-organized research activities for reasonableness. The effort certification process should encompass both sponsored and all other activities.
- The review may not have included any verification of actual effort. In addition, each of the noted departments did not maintain sufficient documentation to support the suitable means of verification.

Similar to our findings, throughout the course of its review, the internal auditors noted a number of issues supporting the need for principal investigators to be trained regarding sponsored research administration.

Cornell management's response to each issue cited in the University Audit Office report on Research and Sponsored Programs Review was brief and essentially noncommittal. The responses indicated a certain degree of "tone at the top" indifference. However, subsequent to our fieldwork Cornell officials provided some documentation of "behind the scenes" actions it had taken to address some of the report findings. Therefore, while the official management response lacked a definite commitment to change, some officials did begin developing plans for corrective actions during FY 2007.

#### Factors Contributing to Effort Reporting Weaknesses

These weaknesses occurred because Cornell officials, prior to FY 2008, did not place sufficient emphasis on effort reporting. Specifically, Cornell: had not defined what constitutes a suitable means of effort report validation and specific NSF requirements; did not require training for PIs who should be involved in the effort reporting process; and, did not address timely many of the weaknesses in the effort reporting system noted during an internal review.

*Suitable Means.* Cornell did not define in existing policies or procedures what constituted a suitable means of verification and the documentation required to be maintained in the award file to demonstrate that administrative officials obtained a suitable means of verification before certifying effort reports. The department administrative officials we interviewed who certified effort reports for the 30 sampled employees did not fully understand the concept of "using a suitable means to validate work performed" or the Federal requirement to adequately document the means of verifying actual work performed. For example, department administrative officials believed that occasional verbal discussions with PIs were a suitable means of verifying work performed even though the discussions were not documented. Contributing to this weakness was a lack of a clear consequence in cases when a certification official did not follow University policies and procedures.

*PIs Were Not Consistently Involved in Effort Certification Process.* PIs are the key officials for effort reporting. Cornell appears to have a comprehensive and well-publicized labor effort and grants management training program, encompassing a wide range of Federal grants management subjects, including most labor effort reporting policies and procedures. However, while PIs were sometimes part of the certification process, their involvement was not required and they were not included in the labor effort training program. For example, the neither of the two PIs in our sample nor any of the other five PI's we interviewed recalled receiving any effort report training.

*Use of Group Certifications.* Cornell's unit management said on-going monitoring was occurring, however, there was no explicit review of the full year effort by the PI. Large numbers of employees were included in the group certifications. Officials stated they relied on discussions with the PI as a suitable means to validate the actual effort performed. However, the discussions were not documented and therefore could not be used as a suitable means to validate effort performed. Thus, the administrative officials were not in a position to evaluate and validate the accuracy of the labor effort allocations to the various Federal awards, including NSF awards.

#### Current Effort Reporting System May Produce Unreliable Effort Reports and Excess Labor Charges

Due to internal control weaknesses as noted above, Cornell provides limited assurance that effort reports supporting \$208,000 (19 percent) of sampled NSF salary charges were reliable. More significantly, those control weaknesses could affect the remaining \$38 million of FY 2007 labor charges to NSF grants, as well as the salary portion of Cornell's other \$262 million of Federal awards.

#### University Planned Improvements to its Current Effort Reporting System

During our exit conference in April 2009, Cornell informed us that based on our audit and the audit by its internal audit group, it had developed plans to address the weaknesses we noted during our audit beginning in March 2007. Cornell officials submitted documentation to us shortly thereafter for our review. Some of the more significant improvements include:

- Requiring training of all employees involved in the effort reporting process, including PIs.
- Developing a detailed definition of "suitable means" and including that definition in its effort reporting policies.
- Requiring that anyone certifying an employee's time *document* how they obtained "suitable means" and maintaining that documentation. In addition, no matter who signs a certification form the PIs will be aware of and understand the effort certification process.
- Verifying the salary charges of sampled individuals that have 95 percent effort or more charged to Federal awards.



- Verifying the salary charges of all PIs that exceed 98 percent effort charged to sponsored awards and that submitted a proposal within the same year.
- Implementing a quality assurance program that will annually test whether certifiers using group certifications followed Cornell's effort certification procedures.

In addition, Cornell provided some additional supporting documentation for 10 employees whose salaries appeared to be certified without suitable means. This did not change our recommendations but we did revise the total salaries at risk in our sample. We commend Cornell for investing time to develop plans to address the weaknesses identified by our audit and the internal audit. We reviewed the documentation and believe that the proposed changes, if properly implemented, could effectively address our audit recommendations and strengthen Cornell's internal controls over effort reporting. Accordingly, we modified our recommendations.

### **Recommendations**

We recommend that the NSF Director of the Division of Grants and Agreements and the Director of the Division of Institution and Award Support, coordinate with the cognizant audit agency, as needed, to implement the following recommendations:

1. Work with Cornell officials to establish an internal control structure that provides for a payroll distribution system that reasonably reflects the actual effort employees devote on sponsored projects. At a minimum, Cornell should take the following corrective actions to revise or establish Cornell policies:
  - a. Develop a detailed definition of "suitable means of verification" and "first hand knowledge" that adheres to Federal regulations, and include the definition in its policies and procedures.

#### Cornell Response to 1.a

Cornell will incorporate a definition of "suitable means of verification" and "first hand knowledge" into its policy on Effort Planning and Confirmation. This will be completed no later than December 31, 2009. It should be noted that the OMB Circular does not include definitions for these terms.

#### Auditor's Comments

Cornell's proposed actions should address our audit recommendation. However, given the possibility that audit resolution may take place prior to December 31, 2009, NSF should verify that the University has implemented the revised policies before resolving the recommendation.

- b. Define clearly what steps an administrative official should perform to demonstrate and document that a "suitable means of verification" was

obtained prior to certifying effort reports and to require that such documentation be maintained in the award files. In addition, ensure the certifying officials are held accountable for following the revised rules

#### Cornell Response to 1.b

As of July 2008, our certification form/process was enhanced to require documentation of the steps taken by the certifier to obtain the suitable means of verification be included on the certification form. Cornell will incorporate examples of the acceptable suitable means of verification when utilizing the group certification method into its Effort Planning and Confirmation policy by December 31, 2009. The university has policies and procedures in place that address an employee's, such as a certifying official's, accountability for their actions.

#### Auditor's Comments

Cornell's proposed actions should address our audit recommendation. However, given the possibility that audit resolution may take place prior to December 31, 2009, NSF should verify that the University has implemented the revised policies before resolving the recommendation.

- c. Work with Cornell officials to ensure all officials involved in the effort reporting process receive periodic labor effort training that addresses Federal and Cornell requirements and is kept up to date. Such training should include a thorough discussion of effort reporting certification responsibilities and requirements. For example, that administrative effort like proposal writing should not be charged directly to an NSF grant.

#### Cornell Response to 1.c

Since June 2006 Cornell has mandated periodic (currently annual) training for a representative from each certifying department. Cornell will develop additional communications and training for other officials involved in the effort reporting process, including PIs no later than December 31, 2009. Cornell's existing policy already prohibits proposal writing from normally being directly charged to an NSF grant, and all faculty were notified of this in 2008 and 2009.

#### Auditor's Comments

Cornell's proposed actions should address our audit recommendation. However, given the possibility that audit resolution may take place prior to December 31, 2009, NSF should verify that the University has implemented the revised policies before resolving the recommendation.

- d. Require that Principal Investigators (PIs) take a more direct role in the effort certification process in acknowledgment of the integral role the PI plays in grants management. This would facilitate the annual certification process by allowing the unit Business Managers/Administrators to place more reliance on the timeliness and accuracy of the information reported on the PCR prior to certification.

Cornell Response to 1.d

The importance of PI involvement is currently included in our training. As improvements are always welcome, the significance of the PI role will be included in the policy on Effort Planning and Confirmation, particularly the documentation of PI involvement. This will be completed no later than December 31, 2009.

Auditor's Comments

Cornell's proposed actions should address our audit recommendation. However, given the possibility that audit resolution may take place prior to December 31, 2009, NSF should verify that the University has implemented the revised policies before resolving the recommendation.

- e. Ensure the University effort reporting system remains effective and in full compliance with Federal, NSF, and University standards by implementing changes timelier to official University policies and procedures due to University Audit Office's independent system evaluations.

Cornell Response to 1.e

The University Audit Office's final report and management responses were reviewed with the Audit Committee of the Board of Trustees in March 2007. Formal follow-up to the report occurred on January 4, 2008, and September 8, 2008 and the University Audit Office is currently performing an Effort Reporting audit. In addition, the NSF was provided a list of twenty remedial actions taken in direct response to this audit. We believe actions to date show our commitment to improving our system. We will speed up the process of amending our policy on Plan Confirmation so they comply with Federal, NSF, and University regulations in a timelier manner.

Auditor's Comments

Cornell's actions are fully responsive to the audit recommendation. During the audit resolution process the University should provide NSF with the new policy.

## 2. Other Matter to be Reported

The NSF-OIG has been conducting audits of effort reporting systems at major universities for several years. During this time they noted that almost all universities have multiple certification periods during a fiscal year. The primary reason being that the longer a period of time between effort being incurred and effort being certified increases the risk of misstatement.

During the course of our audit we found that Cornell only requires certification of effort once a year. Specifically, we found 21 of the 30 sampled employees were certified more than a year after the beginning of the reporting period. This is five months longer than the average of other major universities included in the NSF-OIG's overall labor effort report up to this point. Thus over \$471,000 or 44 percent were certified 13 months after the beginning of the reporting period.

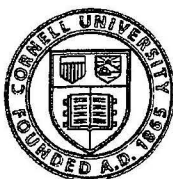
We are not making a recommendation at this time because currently OMB does allow once-a-year certification of effort for universities that use a Plan Confirmation system. However, we believe that Cornell could enhance the reliability of its effort reporting system by certifying effort more often than once a year. NSF-OIG may address this again in their capstone report after completion of the individual university audits.

### Cornell Response to Other Matter

Cornell will consider the frequency of its effort reporting process, especially as it deploys new administrative systems over the next several years. OMB A-21 J.10.c(1)(e) expressly permits an annual certification process ("At least annually a statement will be signed..."). We note that the difference in certification intervals with other institutions is due to Cornell's use of a Plan Confirmation system as allowed by OMB A-21 J.10.c(1), in which subsection (e) allows for annual certification.

### Auditor's Comments

We appreciate Cornell's consideration of this matter and believe Cornell's system will be significantly strengthened if they increase the frequency of certifications.



Cornell University  
Division of  
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June 29, 2009

James Berry Schneck  
Audit Manager  
National Science Foundation  
Office of Inspector General  
4201 Wilson Boulevard  
Arlington, VA 22030

Dear Mr. Berry Schneck:

Thank you for the opportunity to provide a management response to the Audit of Effort Reporting System, Cornell University, Ithaca, New York, dated June, 2009. We appreciate its inclusion in the report. Cornell University recognizes the role of a well-run effort reporting system as a component of ensuring compliance with OMB Circular A-21.

**Response to Recommendations**

We offer the following responses to the recommendations made in your report. Italicized sections are excerpts from the report.

*We recommend that the NSF Director of the Division of Grants and Agreements and the Director of the Division of Institution and Award Support, coordinate with the cognizant audit agency, as needed, to implement the following recommendations:*

*1. Work with Cornell officials to establish an internal control structure that provides for a payroll distribution system that reasonably reflects the actual effort employees devote on sponsored projects. At a minimum, Cornell should take the following corrective actions to revise or establish Cornell policies:*

*a. Develop a detailed definition of "suitable means of verification" and "first hand knowledge" that adheres to Federal regulations, and include the definition in its policies and procedures.*

**Cornell will incorporate a definition of "suitable means of verification" and "first hand knowledge" into its policy on Effort Planning and Confirmation. This will be completed no later than December 31, 2009. It should be noted that the OMB Circular does not include definitions for these terms.**

*b. Define clearly define what steps an administrative official should perform to demonstrate and document that a "suitable means of verification" was obtained prior to certifying effort reports and to require that such documentation be maintained in the award files. In addition, ensure the certifying officials are held accountable for following the revised rules.*

**The university allows some flexibility in obtaining suitable means of verification. As of July 2008, our certification form/process was enhanced to require documentation of the steps taken by the certifier to obtain the suitable means of verification be included on the certification form. Cornell will incorporate examples of the acceptable suitable means of verification when utilizing the group certification method into its Effort Planning and Confirmation policy by December 31, 2009. The university has policies and procedures in place that address an employee's, such as a certifying official's, accountability for their actions.**

*c. Work with Cornell officials to ensure all officials involved in the effort reporting process receive periodic labor effort training that addresses Federal and Cornell requirements and is kept up to date. Such training should include a thorough discussion of effort reporting certification responsibilities and requirements. For example, that administrative effort like proposal writing should not be charged directly to an NSF grant.*

**Since June 2006 Cornell has mandated periodic (currently annual) training for a representative from each certifying department. Cornell will develop additional communications and training for other officials involved in the effort reporting process, including PIs no later than December 31, 2009. Cornell's existing policy already prohibits proposal writing from normally being directly charged to an NSF grant, and all faculty were notified of this in 2008 and 2009.**

*d. Require that Principal Investigators (PIs) take a more direct role in the effort certification process in acknowledgment of the integral role the PI plays in grants management. This would facilitate the annual certification process by allowing the unit Business Managers/Administrators to place more reliance on the timeliness and accuracy of the information reported on the PCR prior to certification.*

**The importance of PI involvement is currently included in our training. As improvements are always welcome, the significance of the PI role will be included in the policy on Effort Planning and Confirmation, particularly the documentation of PI involvement. This will be completed no later than December 31, 2009.**

*e. Ensure the University effort reporting system remains effective and in full compliance with Federal, NSF, and University standards by implementing changes timelier to official University policies and procedures due to University Audit Office's independent system evaluations.*

**The University Audit Office's final report was received on February 2, 2007. The report and management responses were reviewed with the Audit Committee of the Board of Trustees in March 2007. Formal follow-up to the report occurred on January 4, 2008, and September 8, 2008 and the University Audit Office is currently performing an Effort Reporting audit. In addition, the NSF was provided a list of twenty remedial actions taken in direct response to this audit. We believe actions to date show our commitment to improving our system. We will speed up the process of amending our policy on Plan Confirmation so they comply with Federal, NSF, and University regulations in a timelier manner.**

## *2. Other Matter to be Reported*

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**Cornell will consider the frequency of its effort reporting process, especially as it deploys new administrative systems over the next several years. OMB A-21 J.10.c(1)(e) expressly permits an annual certification process (“At least annually a statement will be signed....”). We note that the difference in certification intervals with other institutions is due to Cornell’s use of a Plan Confirmation system as allowed by OMB A-21 J.10.c(1), in which subsection (e) allows for annual certification.**

### **Conclusion**

Cornell University considers a well run effort reporting system to be a key component of financial compliance with sponsored award terms and conditions. In designing and maintaining our plan confirmation system we aim to comply with the Circular while balancing the needs of the research programs, limiting the administrative burden on the principal investigators, and making cost effective use of institutional resources. To ensure that these sometimes competing needs are in balance administrative systems such as these need to be periodically reviewed, and we recognize this audit as an opportunity to do so. We appreciate the time taken by the auditors from the National Science Foundation and WithumSmith+Brown to examine our systems and we look forward to completing our incorporation of their recommendations into our process.

Sincerely,

A large black rectangular redaction box covering the signature and name of the sender.