

# **Study of NSF's Administrative and Overhead Costs**

**National Science Foundation  
Office of Inspector General**

**September 26, 2007  
OIG 07-2-005**



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## Background

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The mission of the National Science Foundation (NSF) is to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. In pursuit of this mission, NSF invests the majority of its appropriations directly in funding basic research of science, engineering, and education through competitive, merit-based grants and agreements. It also invests a small percentage of its appropriations in its own operations in order to process research proposals and manage and oversee its portfolio of research awards.

NSF keeps track of the costs of these investments through the use of a comprehensive system for integrating its budget, costs and performance. The agency's budget is built around its four strategic goals of People, Ideas, Tools, and Organizational Excellence.<sup>1</sup> People, Ideas, and Tools represent the areas of the scientific enterprise in which the agency invests, and each is subdivided into more specific categories of investments. For example, the People strategic goal is made up of the investment categories of Individuals, Institutions, and Collaborations. Each of the agency's programs is assigned to one of these investment categories based on the program's principal objective, and most costs expended on behalf of that program are tracked at this level. The fourth goal, Organizational Excellence, captures the general operations of the agency and the related activities that are not specific to one of the first three goals, categories, or programs. For example, funds are budgeted under Organizational Excellence for the salaries and benefits of NSF employees; general operating costs of the agency such as rent, equipment, supplies, accounting and personnel contract services; salaries and operating expenses of the National Science Board and the Office of Inspector General; and agency-wide activities such as major studies and outreach efforts. Thus, NSF captures both direct program costs and program-specific administrative and operating costs in its strategic goals of People, Ideas, and Tools, and agency-wide administrative and operating costs in its strategic goal of Organizational Excellence.

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<sup>1</sup> In its new Strategic Plan for FY 2006-2011 released in September 2006, NSF realigned its strategic outcome goals to more closely match its recently established strategic priorities. Along with this realignment, the goals of People, Ideas and Tools evolved into Discovery, Learning, and Research Infrastructure. Organizational Excellence is now the strategic goal of Stewardship.

This framework allows the agency to budget appropriations to each of its programs, and subsequently track and report on its costs and performance under each strategic goal or investment category in its annual Performance and Accountability Report. This report includes the agency's Statement of Net Cost, which reports the full costs of each of the strategic goals of People, Ideas, and Tools and their associated investment categories. In presenting its Statement of Net Cost, NSF allocates its Organizational Excellence costs to the investment categories in the People, Ideas, and Tools goals, and reports the total Organizational Excellence costs in the accompanying notes. In this way, the agency treats the investment categories under People, Ideas and Tools as its direct outputs, and treats Organizational Excellence as its pool of administrative and overhead costs, holding the cost of activities which NSF cannot readily assign directly to the investment categories under People, Idea, or Tools.

NSF's cost accounting methodology allows it to integrate its budget with its costs and performance. However, to make a clear distinction between costs actually invested in the conduct of research and education through grants and other awards, and the business processes and other administrative and overhead costs that the agency incurs in making those awards, we have defined the agency's outputs as the grants and awards it makes in support of its mission to conduct basic research and education, and defined administrative and overhead expenses generally as the costs of the business processes and administrative work the agency incurs that allow it to make the grants and awards. Our audit identifies administrative and overhead costs based on this definition.

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## Objective, Scope, and Methodology

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In the conference report accompanying the FY 2005 consolidated appropriations for NSF, Congress requested that the Office of Inspector General review the portion of NSF's budget devoted to administrative and overhead costs. As such, the objective of our audit was to identify the portion of NSF's budgetary resources that were spent on administrative and overhead costs in FY 2005. To gain a better understanding of how NSF classifies its overhead costs, we reviewed pertinent documents relating to the financial performance and management of the agency. We also met with personnel from NSF's Office of Budget, Finance and Award Management, executive officers of the agency, and the agency's financial statement auditors (Clifton Gunderson LLP).

We obtained and reviewed detailed reports on the agency's Fiscal Year (FY) 2005 costs reflecting its classification of costs under People, Ideas, Tools and Organizational Excellence. We reconciled these reports to the agency's FY 2005 Statement of Net Cost to ensure that our data was complete, and compared them to information on NSF's merit review panel costs from the Federal Advisory Committee Act Database. We performed limited testing of a judgmental sample of the transactions from these reports to identify costs that would be classified differently using grants and awards as NSF's outputs rather than programs and strategic goals to define administrative and overhead costs.

In selecting our judgmental sample, we focused on eight expense categories where, based on our knowledge of the agency's operations, we expected the greatest risk that the cost classification would be different, using our definition of NSF's administrative and overhead costs. Generally, these categories had high dollar values and a mix of costs classified as overhead (Organizational Excellence) and direct (People, Ideas, and Tools). Within each expense category, we grouped transactions by source document identification numbers, which are codes assigned to source documentation in NSF's databases. We selected two source documentation groups within each expense category, generally the groups with the highest dollar value and a mix of direct and overhead costs. Within each of these groups we randomly selected eight transactions, or fewer if the group contained less than eight transactions. We obtained the source documentation for the transactions, and discussed them with NSF staff as necessary to determine their nature. Finally, we evaluated the transactions to determine if the costs should be included in administrative and overhead costs using our definition of NSF's outputs. In total, out of FY 2005 costs of \$5,534.6 million, we tested 91 transactions totaling \$5.54 million: \$3.16 million in Organizational Excellence, and \$2.38 million in People, Ideas, and Tools.

Because we selected our population and sample judgmentally, the scope of our audit was limited to only those transactions that we tested. Thus, our consideration of the classification of costs as direct or overhead was limited and would not necessarily disclose all material instances in which costs were not classified consistently with our definition of overhead.

The audit was performed from March 2006 through September 2007. 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 these objectives.

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## Results of Audit

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Our audit identified \$322,137,984 of administrative and overhead costs for NSF in FY 2005, equal to 5.8 percent of its total gross costs of \$5,541,079,474.<sup>2</sup> This was 10.2 percent greater than the \$292,426,388 of administrative and overhead costs reported by the agency for the same period. The difference is primarily because we classified as administrative and overhead NSF's program-specific merit review costs and the costs of several task orders and contracts for work performed for specific programs that were administrative in nature. We also included as administrative and overhead the estimated costs of donated merit review services, but removed the costs of two grants the agency included in Organizational Excellence that we classified as a direct cost.

Organizational Excellence reported in FY 05	\$292,426,388
Reclassification of Merit Review Costs	23,001,112
Estimate of Donated Merit Review Services	6,439,300
Reclassification of Task Orders and Contracts	405,309
Reclassification of Grants	<u>(134,125)</u>

Administrative and Overhead Costs: \$322,137,984

These adjustments are discussed in more detail below.

**Merit Review Costs:** Merit review is the process by which NSF obtains the advice and recommendations of a panel of experts to assist in its decision of whether a particular research proposal merits funding. Merit review panelists evaluate research proposals and make award recommendations to NSF's program officers. NSF program officers take the panelists' opinions into account, along with other factors such as external reviews or funding priorities as a basis to make recommendations to NSF's Division leadership to award or decline a proposal. The review takes place either by mail; panel, where the reviewers assemble at a common location; or a combination of the two. NSF incurs costs for the reviewers' travel and expenses when it convenes panels, but NSF does not provide financial compensation for mail reviewers.

In FY 2005, NSF reviewed approximately 44,700 proposals, and incurred \$23,001,112 in panelist direct travel and expenses.

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<sup>2</sup> This figure is higher than the \$5,534,640,174 in FY 2005 gross costs reported by the agency because it includes an additional \$6,439,300 to reflect the estimated value of time donated by merit review panelists for mail reviews, as discussed below.

Because it can readily identify the program that benefits from a merit review panel, NSF allocates most merit review costs directly to the appropriate NSF program and investment category and does not consider them to be administrative and overhead costs. However, because merit review costs result from a business process that enables NSF to make grants and awards as opposed to being part of the output, or actual grants or awards themselves, we classified merit review costs as administrative and overhead.

***Donated Merit Review Services:*** Unlike its panel reviewers, NSF does not compensate mail reviewers for the time they spend reviewing proposals at their home institutions or other locations. As such, NSF receives an important benefit from these donated services. To accurately reflect the resources NSF requires to evaluate proposals for the purpose of making research and education grants and awards, we included an estimate of the value of these donated services in our calculation of administrative and overhead costs.

NSF reported that it received 64,393 mail reviews during FY 2005. The consulting firm, Booz Allen Hamilton (BAH), recently conducted a business analysis for NSF which considered how NSF might compensate these reviewers. After reviewing the practices of several federal agencies and organizations and discussing the matter with NSF staff, BAH estimated the agency might spend between \$50 and \$100 in honoraria for each mail review of a proposal. Using the rate of \$100 per mail review, we estimated that reviewers donated services worth approximately \$6,439,300, and added this amount to our calculation of the agency's FY 2005 overhead costs. We alternatively valued the donated services by estimating that each reviewer could spend an average of five hours per review. Using an average annual salary of \$125,000, or \$60 per hour, the agency might spend \$300 for each mail review. Under this method, reviewers donated services worth approximately \$19,317,900. Although these estimates demonstrate a significant difference in the range of costs NSF could incur if it was required to compensate mail reviewers for their services, we have used the more conservative estimate of \$6,439,300.

***Task Orders and Contracts:*** In our review of a sample of NSF's transactions, we identified two task orders and two contracts that NSF charged directly to programs, but we included in our administrative and overhead costs because they related to the administrative work of the agency. These 4 transactions totaled \$405,309. The two task orders were for support of the agency's

computer systems, and the two contracts were for personnel supporting NSF programs.

The first transaction of \$27,019 was for computer and database support provided by BAH to the Division of Research, Evaluation and Communication, and was classified under the Ideas strategic goal. Similarly, a second transaction of \$362,051 was for eJacket and Fastlane software development provided by BAH to the Division of Graduate Education, and was classified under the People goal. We added these two transactions in administrative and overhead costs because the agency's computer systems are a part of NSF's business processes, rather than a direct investment in science, engineering and education.

The third transaction was for \$13,587 in program officer support provided to the Math and Science Partnership Program under a contract with PRAMM Consulting, and had been classified under the People goal. The final transaction was for \$2,652 in program support provided to the Engineering Research Centers program by a retired NSF program officer, and had been classified under the Ideas goal. We again added these transactions in the administrative and overhead costs because the services provided under the contracts were for overhead-type work similar to that performed by NSF program officers and staff.

***Reclassification of Grants:*** In our review of a sample of NSF's transactions, we also identified two awards that NSF had classified as part of Organizational Excellence, but we included as direct costs because the grants were research related. One was an Alan T. Waterman award, which is an early-career grant for a young researcher in any field of science or engineering to conduct scientific research or advanced study. The other grant covered costs associated with a conference to educate journalists who write about science, which NSF had included in Organizational Excellence in error. These transactions totaled \$134,125, which we classified as direct costs and therefore, excluded from administrative and overhead costs.

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## Conclusion

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In its 2006 Performance Highlights, NSF reports that, historically, approximately 95 percent of its budget is spent in the conduct of research and education and 5 to 6 percent on administrative and overhead expenses. Recognizing grants and awards for basic research as the outputs of NSF's operations and including the estimated value of donated merit review services, our limited audit

identified 10.2 percent or \$29,711,596 more than NSF reported as administrative and overhead in its FY 2005 Statement of Net Costs. By including the additional and estimated costs in administrative and overhead expenses, we calculate that NSF would have spent 94.2 percent of its FY 2005 budget directly supporting research and education, and 5.8 percent on administrative and overhead expenses.

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## Agency Response

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NSF reviewed a draft of this report and noted that it provides a valuable perspective on the general framework for classifying administrative and overhead costs, and for gauging the overall level of investment under NSF's Stewardship (Organizational Excellence) goal. At this time, NSF does not plan to make any changes to its current methods of classifying costs.

We have attached NSF's response to this report in its entirety as an appendix.

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## Appendix A: Agency Response

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OFFICE OF THE CHIEF FINANCIAL OFFICER

### MEMORANDUM

Date: SEP 13 2007

To: Deborah H. Cureton, Associate Inspector General for Audit

From: Thomas N. Cooley, Chief Financial Officer

Subject: Management Response to Draft Study of the National Science Foundation's Administrative and Overhead Costs

This memorandum responds to your request for comments on the draft report for the study of the National Science Foundation's (NSF) administrative and overhead costs dated September 7, 2007. We appreciate the opportunity to comment on the report.

In reviewing the report, we found that it provides a valuable perspective on the general framework for classifying these costs and gauging the overall level of investment under the NSF Stewardship goal as compared to the goals for Discovery, Learning, and Research Infrastructure. The NSF Strategic Plan emphasizes the interrelationships among these four goals, including how the success under the Stewardship goal is a prerequisite for achievements under the other goals.

Concerning panel travel costs, we have considered your analysis of the costs as they relate to program and administrative and overhead costs. We feel that our current approach of linking these costs directly to the appropriate program is consistent with the Office of Management and Budget guidance in related areas, notably Circular A-21 "Cost Principles for Educational Institutions." This guidance establishes that "Direct costs are those costs that can be identified specifically with a particular sponsored project, an instructional activity, or any other institutional activity, or that can be directly assigned to such activities relatively easily with a high degree of accuracy." Therefore, NSF will continue to define panel costs as a direct program cost. This is consistent with both prior and current strategic plans.

With respect to the Waterman Award, we feel it is more appropriate to consider it as part of our Stewardship goal. Since it is an honorary award, the outcome, therefore, is in keeping with the larger responsibilities of NSF as an institution (per the Stewardship goal), rather than the programmatic outcomes associated with the other goals. This is consistent with awards supported through the National Science Board appropriation.

As to the donated merit review services, we appreciate the insight that the study provides on the potential costs in this area. We agree that NSF receives an important benefit from these types of reviews. However, at this point in time, NSF does not plan to pay honoraria for these services.

We look forward to working with the Office of Inspector General for the continued improvement of our operations. In the meantime, if you have any questions or require additional information, please contact me at (703) 292-8200 or Shirl Ruffin, Deputy Chief Financial Officer at (703) 292-8280.

*Martha A Rubenstem*  
Thomas N. Cooley *for*