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United States General Accounting Office  
Washington, DC 20548

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July 10, 2003

The Honorable Christopher S. Bond  
Chairman, Subcommittee on  
VA, HUD, and Independent Agencies  
Committee on Appropriations  
United States Senate

Subject: *National Science Foundation: Status of the Business Analysis Plan Contract*

Dear Mr. Chairman:

In June 2002, the National Science Foundation (NSF) awarded a 3-year, \$14.8 million contract for a business analysis plan to support three key management areas at the foundation: its business processes, human capital, and information technology. The contract is to be completed by September 30, 2005, and is to result in seven deliverables, including a project plan to guide the contractor's work.

You asked us to obtain information on (1) the status of contract funds budgeted to the key management areas and contract deliverables, and overall plans for the contract; (2) the extent to which the contract will address management issues previously reported by audit and oversight bodies; and (3) NSF's management of the contract and plans for integrating any recommendations made by the contractor. We provided your staff with a formal briefing on our findings on May 14, 2003. A copy of our briefing is enclosed.<sup>1</sup>

In summary, we found the following:

As of May 31, 2003, NSF had spent about \$1.9 million on the contract, with business processes and human capital management accounting for about 75 percent of the expenditures and information technology accounting for the remainder. Expenditure data by individual contract deliverable were unavailable because NSF did not estimate and is not tracking the costs of deliverables due from the contractor. NSF's current schedule for the contract reflects delays for early deliverables, including the first deliverable, the project plan. The contractor delivered a draft project plan to NSF on June 30, 2003, and NSF is working with the contractor to finalize it by July 15, 2003, over a year later than originally planned. Agency officials attributed delays of

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<sup>1</sup>We have updated our briefing slides to reflect current expenditure data and a revised estimated project plan completion date discussed in this report.

early deliverables primarily to funding limitations during fiscal year 2002 and the first half of fiscal year 2003. Despite the initial delays, NSF still expects the contract to be completed by its originally planned date. NSF plans to spend only the original base amount of the contract—\$12.8 million—and does not have any current plans to use the additional \$2 million it reserved for ad hoc analyses.

The extent to which key management issues identified by audit and oversight bodies will be addressed under the contract is unknown. Over the past few years, audit and oversight bodies such as GAO, the Office of Management and Budget, and NSF's Office of the Inspector General have reported on various management issues at NSF, including issues related to budget performance, financial management, human capital, information technology, and award and project management. NSF's initial contract documents, such as its statement of work and request for proposals, contained provisions for the majority of these management issues to be included in the scope of the contract. The awarded contract requires the contractor to perform early survey work to determine the specific issues to address within the contract deliverables. Therefore, until the survey work and project plan are completed, the extent to which the key management issues will be addressed under the contract is unknown.

Before and since the award of the contract, NSF contract management staff has kept senior-level officials apprised, through periodic briefings, of its plans for and progress on the contract. The NSF organizations that have been involved in monitoring or oversight activities of the business analysis plan contract include

- a steering committee for the contract, chaired by the contracting officer's technical representative and consisting of senior-level management and nonmanagement staff in all program areas covered by the contract;
- senior management officials, including the Director and Deputy Director of NSF and the heads of most research directorates and staff offices;
- the Business and Operations Advisory Committee, which advises both the Director of Budget, Finance and Award Management and the Director of Information and Resource Management;
- the National Science Board's Audit and Oversight Committee; and
- NSF's Office of the Inspector General.

Some of these organizations also have provided advice and guidance on the contract. For example, the Business and Operations Advisory Committee encouraged the business analysis team to consider, among other things, how other government-wide efforts, such as enterprise architecture, might affect its work and recommendations. In addition, the committee encouraged the team to coordinate with other ongoing work at NSF that might have implications for the business analysis plan. Also, in the early stages of contract development, the Office of the Inspector General encouraged strong oversight of the contractor by NSF.

To implement any recommendations resulting from the contract, NSF plans to work the recommendations through its normal chain of command. For some

recommendations requiring agencywide change, NSF's Office of Integrative Activities, which is responsible for integrating many crosscutting issues across the agency, will develop an implementation strategy and devolve the actual implementation to the relevant division or office. For other crosscutting recommendations, NSF will decide on a case-by-case basis whether to assign development of an implementation strategy to an existing working group or create a new one. NSF plans to request additional appropriations, as necessary, to cover the cost of implementing any recommendations resulting from the contract. For example, NSF already has requested \$1 million in its fiscal year 2004 budget request to implement human capital recommendations anticipated from the contractor.

We provided a draft of this report to the Director of NSF for comment. In response, we received oral comments from the NSF contracting officer's technical representative responsible for managing the contract and from other senior management officials including the Chief Human Capital Officer and Chief Financial Officer. The NSF officials generally agreed with the information presented in our report and provided some clarifying comments that we incorporated as appropriate.

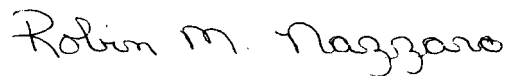
Our methodology is discussed in the enclosed slides. We performed our work from January 2003 through June 2003 in accordance with generally accepted government auditing standards.

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We are sending copies of this report to the Director of NSF. In addition, this report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you have any questions about this report or need additional information, please contact me at (202) 512-3841. Key contributors to this report were David P. Bixler, Michael E. Gilbert, and Lynn M. Wasielewski.

Sincerely yours,



Robin M. Nazzaro  
Director, Natural Resources  
and Environment

Enclosure



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# **National Science Foundation: Status of the Business Analysis Plan**

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**Briefing  
Subcommittee on VA, HUD, and  
Independent Agencies  
Committee on Appropriations  
U.S. Senate  
May 14, 2003**

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# Briefing Overview

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- Background
  - Objectives
  - Scope and Methodology
  - Results in Brief
    - Contract Funding
    - Management Issues
    - Contract Oversight and Management
  - Related Studies at NSF
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## Background

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- NSF's mission includes
    - promoting the progress of science;
    - advancing the nation's health, prosperity, and welfare; and
    - securing national defense.
  - NSF's FY 2002 Administration and Management (A&M) Strategic Plan focuses on improvements in three areas to support NSF's mission:
    - Business processes,
    - Human capital, and
    - Technology and tools.
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## Background (continued)

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- A&M plan also focuses on improvement in five mission-critical business processes:
    - Merit review
    - Award management and oversight
    - Resource allocation
    - Performance assessment and accountability
    - Knowledge management
  - A&M plan announced initiation of a comprehensive, multi-year business analysis to support its human capital, mission-critical business processes, and information technology management
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## Background (continued)

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- NSF awarded a 3-year, \$14.8 million business analysis contract to Booz-Allen-Hamilton (BAH) in June 2002
  - Contract base amount is \$12.8 million, with an additional \$2 million reserved as discretionary funding
  - Contract scheduled for completion end of FY 2005; will consist of 7 individual products (deliverables):
    - Project plan
    - Business analysis assessment
    - Document current environment
    - Business analysis plan for core processes
    - Human capital management plan
    - IT and enterprise architecture plan
    - Final report
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# Objectives

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To provide information on

- The status of contract funds by key management areas and contract deliverables, and NSF's overall plans for the contract;
  - The extent to which the contract addresses management issues cited by audit and oversight bodies; and
  - NSF's management of the contract and plans for integrating any recommended actions.
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## Scope and Methodology

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To determine

- The status of contract funding, we reviewed budget documentation and expenditure records, and interviewed NSF officials.
  - The extent to which the contract addresses management challenges, we compared management issues cited in GAO, OIG, OMB, and NSF documents with issues addressed in the initial contract documentation, and interviewed NSF contract officials.
  - NSF's management of the contract and plans for integrating contractor recommendations, we identified management oversight functions and the frequency of oversight activities; reviewed records of meetings, including minutes by oversight bodies; and interviewed NSF officials.
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## Results in Brief

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- Contract funding
  - \$1.9 million spent as of May 31, 2003, among three management areas<sup>1</sup>
  - Costs of deliverables not estimated or tracked
  - Early deliverables, including the project plan, have been delayed, but NSF still plans to complete the contract on schedule in FY 2005
  
- Management issues
  - Key management issues identified by audit and oversight bodies are to be assessed by the contractor to determine the final scope of work for each issue
  - Extent and how issues will be addressed not fully known until project plan is completed
  
- Contract oversight and management
  - Oversight and management structure in place
  - NSF plans to request separate appropriations to implement recommendations

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<sup>1</sup>Expenditure data have been updated to reflect the most recent available data; the original data reported in the briefing were as of March 31, 2003.



# Contract Funding

## Summary

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- Expect to spend \$12.8 million of \$14.8 million awarded
- \$1.9 million spent as of May 31, 2003<sup>1</sup>
- Expenditures came from the salaries and expense appropriation
- Costs of deliverables not estimated or tracked
- Early deliverables are late—project plan, expected to guide contractor activities, is due in July 2003,<sup>2</sup> and will be over 1 year late

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<sup>1</sup>Expenditure data have been updated to reflect the most recent available data; the original data reported in the briefing were as of March 31, 2003.  
<sup>2</sup>The estimated completion date for the project plan has been updated to reflect NSF's most current estimate; the estimated completion date reported in the briefing was June 30, 2003.



# Contract Funding

NSF's Actual and Planned Expenditures, as of May 31, 2003<sup>a</sup>

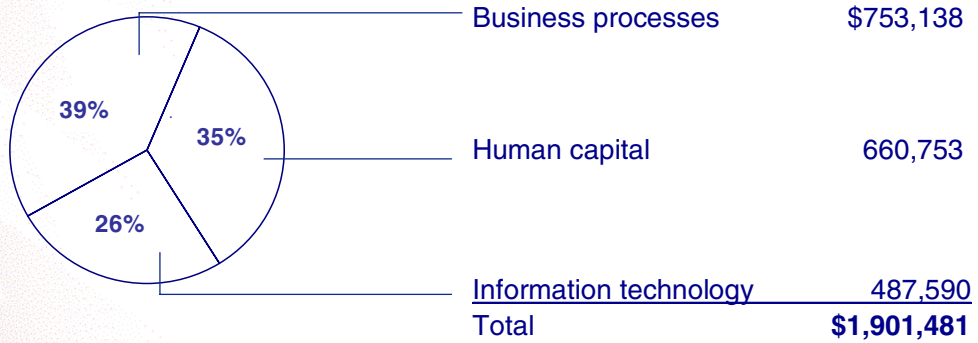
Fiscal year	Expenditures (dollars in millions)		
	Original estimates	Actual expenditures	Current and planned expenditures
2002	\$ .475	\$ .450	\$ .450
2003	6.000	1.451	2.950
2004	4.500		4.500
2005	3.800		4.900
<b>Total</b>	<b>\$14.775<sup>b</sup></b>	<b>\$1.901</b>	<b>\$12.800</b>

<sup>a</sup> Expenditure data have been updated to reflect the most recent available data; the original data reported in the briefing were as of March 31, 2003.

<sup>b</sup> Original amount planned was \$14.8 million.

# Contract Funding

Contract Expenditures by Major Category, as of May 31, 2003<sup>a</sup>



- NSF expects human capital will become the largest category of expenditure over the life of the contract.

<sup>a</sup>Expenditure data have been updated to reflect the most recent available data; the original data reported in the briefing were as of March 31, 2003.





# Contract Funding

## Source of Contract Funds

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- FY 2002:
  - The Advisory and Assistance Services object class within the Salaries and Expense Appropriation account<sup>1</sup>
  - Administrative Cost Recoveries—fees received from other federal agencies for activities administered for those agencies, such as making science awards
  - According to NSF officials, these expenditures directly reduced the amount of discretionary spending that could have been spent on IT enhancements
  - According to NSF officials, however, these expenditures did not reduce the amount of annual appropriations originally planned for IT spending

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<sup>1</sup>Initially, \$1 million was obligated in fiscal year 2002, from the Research and Related Activities account but was subsequently de-obligated.

# Contract Funding

## Source of Contract Funds (continued)

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- FY 2003: NSF plans to fund the contract from the Advisory and Assistance Services object class—not from Administrative Cost Recoveries.
- According to the Director of Information Systems, the business analysis project is a net benefit to IT because a substantial amount of the contract funds are being spent on enterprise architecture and IT planning.



# Contract Funding

## Status of Contract Deliverables

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- NSF did not initially estimate, and does not track, the costs of individual deliverables.
  - NSF is still developing dates for deliverables, but the current plan reflects some delays of early deliverables, including the project plan.
  - NSF does not expect early delays to delay contract completion.
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# Contract Funding

## Status of Contract Deliverables (continued)

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- According to senior officials, delays occurred because
  - FY 2002 - NSF was limited to spending \$500,000 due to annual reprogramming limitations
  - FY 2003 - under continuing resolutions, NSF could only fund the contract at the FY 2002 rate—\$475,000 per quarter



## Contract Funding – Status of Contract Deliverables (cont.) Early Deliverables Delayed

Outputs	Contract deliverables	Start date			Completion date		
		Original Estimate	Current Estimate	Actual	Original Estimate	Current Estimate	Actual
Project plan	Plan	FY02 Q3	6/26/02	6/26/02	FY02 Q3	7/15/03 <sup>a</sup>	
Business analysis assessment	Initial assessment	FY02 Q3	7/02	7/02	FY03 Q1	9/30/03	
	Project web page	FY02 Q3	7/02	1/03	FY03 Q1	5/31/03	
Current environment	Initial review of workforce	FY02 Q3	7/1/02	7/1/02	FY02 Q4	9/30/02	9/30/02
	Complete documentation	FY02 Q3	7/1/02	7/1/02	FY03 Q1	9/30/03	
Business analysis plans for core business processes	Merit review <sup>b</sup>	FY03 Q1	10/1/03		FY05 Q3	TBD	
	Award management and oversight <sup>b</sup>	FY03 Q1	10/1/03		FY05 Q3	TBD	
	Resource allocation <sup>b</sup>	FY03 Q4	7/1/03		FY05 Q3	TBD	
	Performance assessment <sup>b</sup>	FY03 Q4	7/1/03		FY05 Q3	TBD	
Human capital management plan	Knowledge management	FY04 Q4	7/1/04		FY05 Q3	TBD	
	First draft	FY03 Q2	4/1/03	4/1/03	FY03 Q4	9/30/03	
	Refinement	FY04 Q1	10/1/03		FY04 Q4	TBD	
IT and enterprise architecture plan	Refinement	FY05 Q1	10/1/04		FY05 Q3	TBD	
	First draft	FY03 Q2	1/1/03	1/103	FY03 Q4	TBD	
	Refinement	FY04 Q1	10/1/03		FY04 Q4	TBD	
Final report	Refinement	FY05 Q1	10/1/04		FY05 Q3	TBD	
	Report	FY05 Q3	4/1/05		FY05 Q4	TBD	

Note: Shaded areas highlight actual or anticipated delays in the start and completion dates of contract deliverables.

<sup>a</sup>The estimated completion date for the project plan has been updated to reflect NSF's most current estimate; the estimated completion date reported in the briefing was June 30, 2003.

<sup>b</sup>These deliverables are planned to have multiple revisions over the 3-year period of the contract.

# Management Issues

## Summary

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- Key management issues identified by audit and oversight bodies are to be assessed by the contractor to determine the final scope of work for each issue.
  - Until the project plan is completed, however, it is unclear how and the extent to which these issues will be addressed.
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# Management Issues

## Issues Identified by Oversight Bodies

- Management issues are to be addressed within the scope of the contract.

Management issues	Included in scope of the contract?		Issues cited by		
	Yes	No	OMB	GAO	OIG
Human capital	●		●	●	●
Information technology	●		●	●	●
Budget performance	●		●		●
Financial management	●		●		●
Project and award management	●				●
Contracting out activities	●		●		

# Management Issues

## Issues to Be Addressed in Contract

- One or more management issue is to be addressed by each deliverable.

Management issues	Contract deliverables					
	Project plan	Business process assessment	Current environment	Business process analysis	Human capital management plan	IT and enterprise architecture plan
Human capital	●		●	●	●	
Information technology	●		●	●		●
Budget performance	●	●	●	●		
Financial management <sup>a</sup>						
Project and award management	●	●		●		
Contracting out activities	●				●	

<sup>a</sup>The scope of the contract's survey work includes an assessment of financial management related issues. However, until that assessment is done and a project plan is completed, the extent to which those issues will be included in the contract deliverables is unknown.





# Management Issues

## Specific Management Challenges

- The majority of specific management challenges identified by audit and oversight bodies are to be included within the scope of the contract.

Management issues	Specific challenges oversight agencies identified	In scope?
Human capital	• Develop succession planning	✓
	• Improve learning and development	✓
	• Develop recruitment and retention strategy	✓
	• Develop strategic workforce planning	✓
	• Create results-oriented organizational culture	✓
Information technology	• Strengthen information security	✓
	• Expand electronic government	✓
Budget performance	• Tie resources to results	✓
	• Use multiple accounts to fund program resources	
	• Improve cost accounting systems	
	• Allocate more funding to office space and travel	✓
Financial management	• Improve financial performance, including erroneous payments	
	• Improve credit card monitoring	
Project and award management	• Maintain merit review while fostering diversity	✓
	• Ensure accountability for cost sharing	
	• Improve financial oversight, especially large facility and research projects	✓
Contracting out activities	• Increase competitive sourcing	✓

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## Contract Oversight and Management Summary

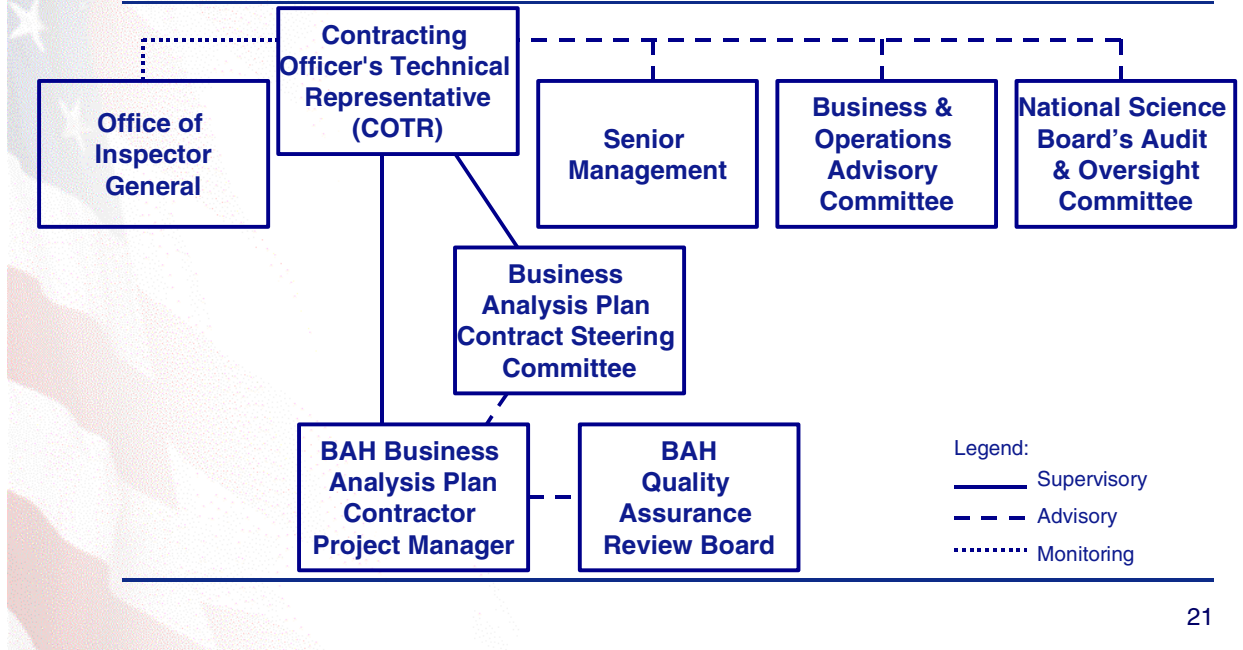
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- Structure is in place to oversee and manage the contract.
- NSF contract management has kept senior management, the National Science Board, and the NSF OIG apprised of contract progress and plans.
- Initial contract documents anticipate that the contract will result in recommendations and implementation plans.
- NSF requested \$1 million in the FY 2004 budget to implement human capital recommendations anticipated from the contractor and will request additional appropriations, as necessary, to implement any recommendations identified in the future.



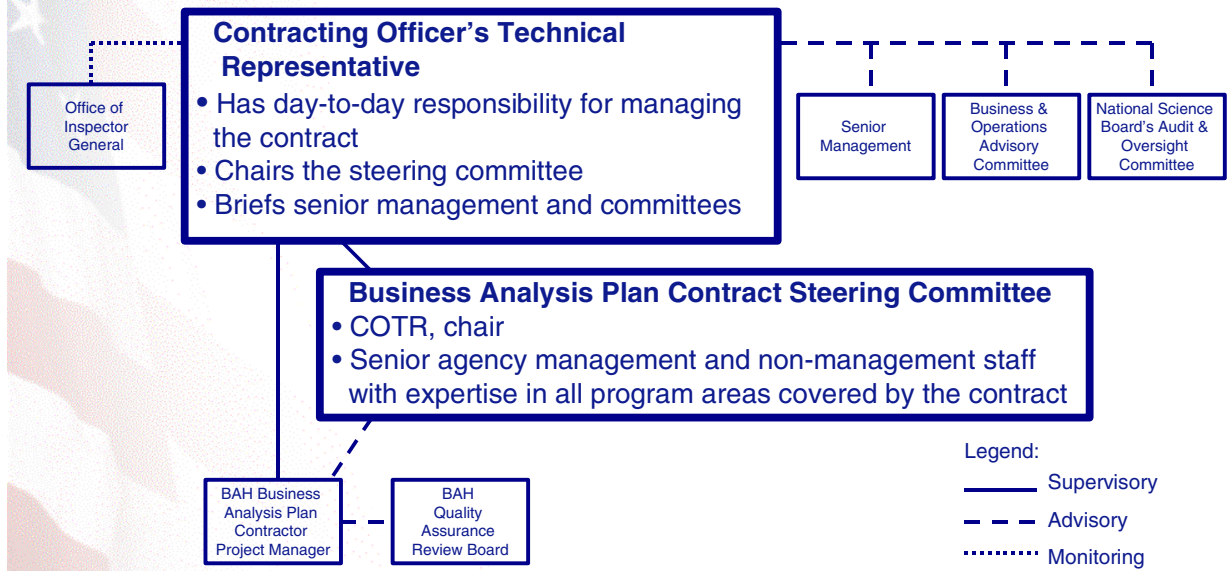
# Contract Oversight and Management

## Business Analysis Plan Contract Management



# Contract Oversight and Management

## NSF Contract Management



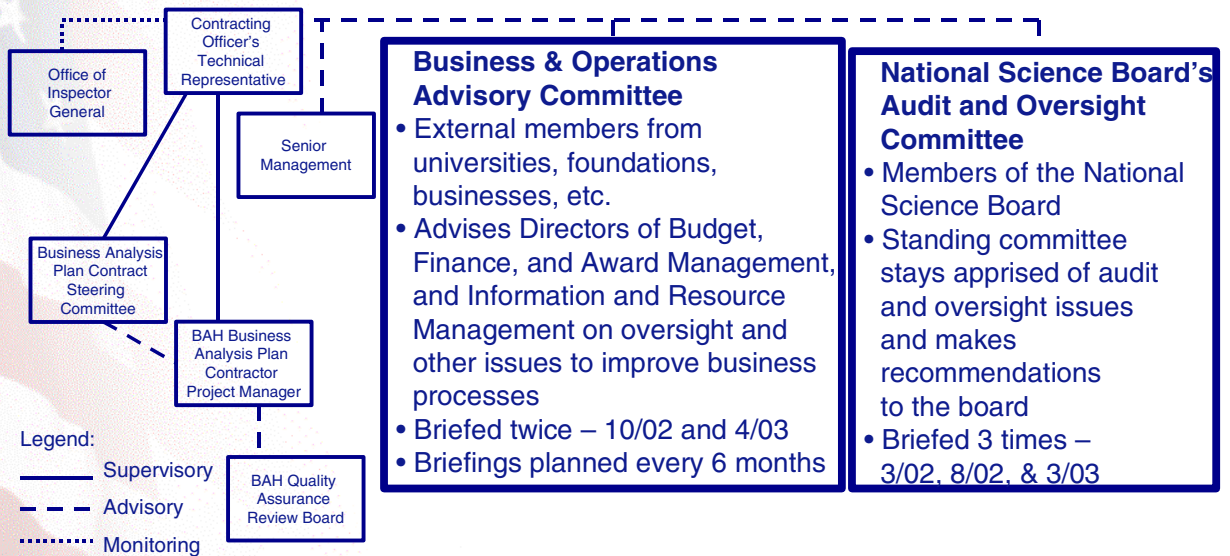
# Contract Oversight and Management

## NSF Contract Oversight – Senior Management



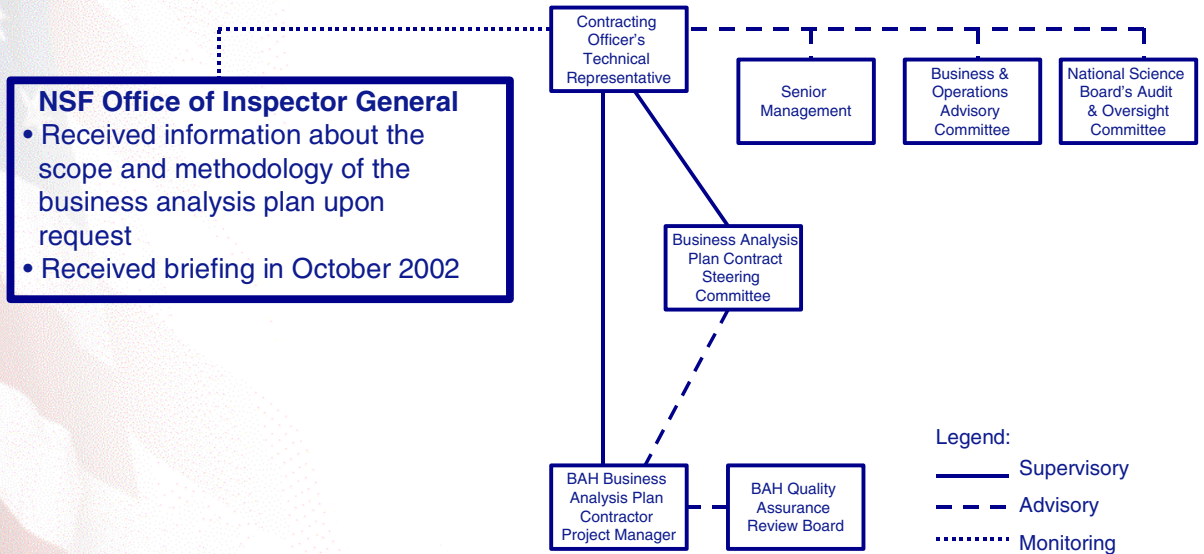
# Contract Oversight and Management

## NSF Contract Oversight – Committees

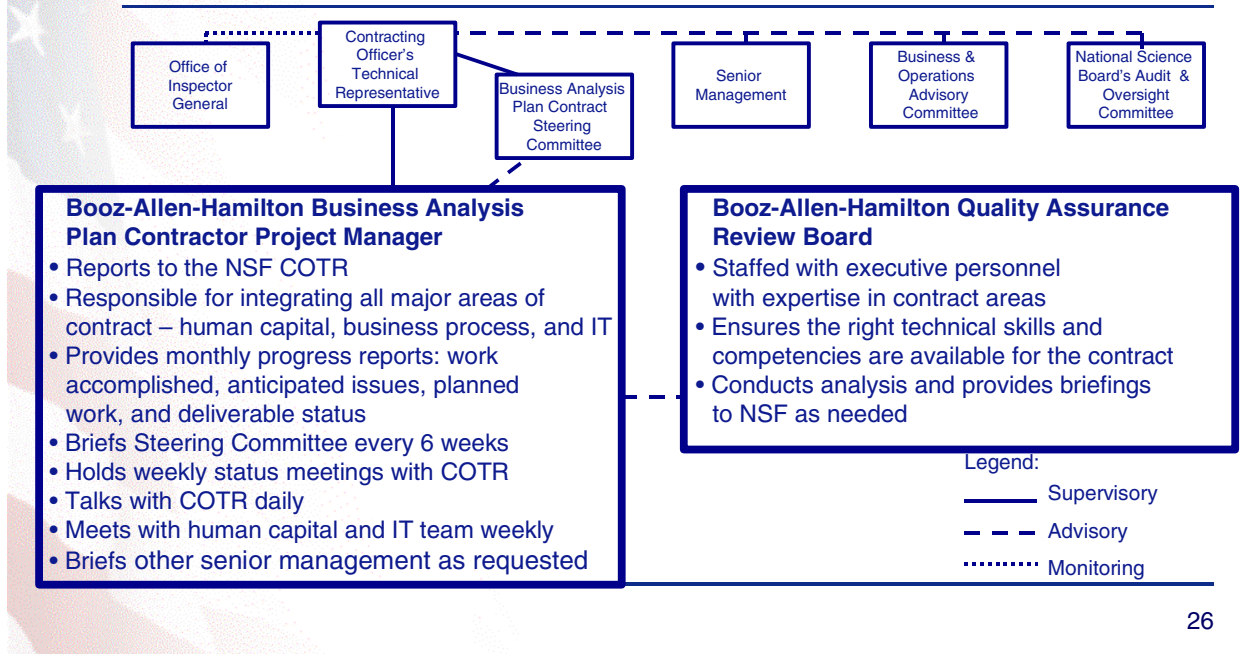


# Contract Oversight and Management

## NSF Contract Oversight – NSF Inspector General



# Contract Oversight and Management Booz-Allen-Hamilton







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## **Contract Oversight and Management**

### **Implementation of Contractor Recommendations**

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- NSF requested \$1 million in FY 2004 budget to implement human capital recommendations anticipated from the contractor.
- NSF plans to request additional appropriations, as necessary, to implement any recommendations identified in the future.

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## Related Studies at NSF

### Summary

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- Two other ongoing studies concern NSF's management challenges:
  - A National Academy of Public Administration (NAPA) study is addressing the agency's organizational, programmatic, and personnel structures, and
  - A National Academy of Sciences (NAS) study is addressing the agency's management of the large facilities program.
- NSF has taken steps to ensure that both of these studies are coordinated with the contract for the business analysis plan.





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## **Related Studies at NSF**

### **NAPA**

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- Congressionally mandated to study NSF's organizational, programmatic, and personnel structures
- NAPA awarded \$1 million contract
- Contract awarded on March 14, 2003; final report due April 2004

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## Related Studies at NSF NAS

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- Congressionally mandated to study NSF's management of large-scale construction projects and the priority-setting process for selecting projects to be funded
- NAS awarded \$600,000 grant
- Awarded on January 29, 2003; final report due April 2004

## Related Studies at NSF

### Coordination with NAPA and NAS

- To address concerns over potential overlap of work on the NAPA and Business Analysis Plan contracts:
  - NSF's statement-of-work for the NAPA contract states that it is vital that the contractor coordinate its work with the NSF business analysis contract effort;
  - The Business and Operations Advisory Committee urged NAPA and BAH to coordinate closely; and
  - Booz-Allen-Hamilton and NAPA plan to hold regular monthly meetings over the life of the NAPA contract to coordinate activities.
- To address any potential for overlap of work on the NAS grant, the COTR for the business analysis contract plans to coordinate with NAS grant efforts. Large facility management has been identified as a management challenge for NSF and is to be included in the scope of the business analysis plan.

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