

National Science Foundation
Advisory Committee for Business and Operations
Spring 2018 Meeting Minutes
June 13-14, 2018

Attendance:

Benjamin Brown	Program Manager, Department of Energy
Lee Cheatham	Director, Office of Technology Deployment and Outreach, Pacific Northwest National Laboratory
Robert Dixon	Interim Chair of the Department of Industrial and Systems Engineering, North Carolina Agricultural and Technical State University
Adam Goldberg	Director and Executive Architect, Department of Treasury
Charles Grimes (co-chair)	Retired COO, U.S. Office of Personnel Management
Michael Holland	Executive Director, Center for Urban Science and Progress, New York University
Ned Holland	Retired Assistant Secretary for Administration, U.S. Department of Health and Human Services
Jan Jones	Retired Federal Senior Executive, United States Capitol Police
John Kamensky	Senior Fellow, IBM Center for the Business of Government
Alicia Knoedler	Associate VP for Research, Director of the Center for Research Program Development and Enrichment, University of Oklahoma
Rachel Levinson	Executive Director, National Research Initiatives, Arizona State University
Joe Mitchell	Director of Academy Programs, National Academy of Public Administration
Kim Moreland	Associate Vice Chancellor, Director, University of Wisconsin - Madison
John Palguta	Retired Vice President for Policy, Partnership for Public Service
Theresa Pardo (telephonic)	Director, Center for Technology in Government, University of Albany - State University of New York
Susan Sedwick (co-chair)	Senior Consultant, Attain, LLC
Dave Spencer	Chairman, WTe Corporation
John Tao	President, O-Innovation Advisors LLC
Pamela Webb	Associate Vice President for Research, University of Minnesota
Doug Webster	Director, Government to Government Risk Management, US Agency for International Development

Wednesday, June 13, 2018

Welcome/Introductions/Recap

Co-Chairs: Chuck Grimes and Susan Sedwick

Chuck Grimes called the meeting to order. He welcomed all members in attendance and Theresa Pardo who joined via teleconference.

Meeting with Dr. Córdoba and Dr. Ferrini-Mundy

Dr. Córdoba recognized the NSF staff, in particular, Teresa Grancorvitz, Donna Butler and those who are in new or acting positions and provided an overview of the FY 2020 budget preparation. She shared that

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there should be an announcement the following day (June 14) about the initial FY 2019 budget markup from the Senate and recapped the budget process from last year which resulted in augmentation funding that was not initially anticipated. About half of those funds were spent on research infrastructure such as accelerating the Antarctic infrastructure modernization project and Palmer Pier improvements which had so many deferred maintenance issues. BOAC members asked questions about the augmentation funds NSF received in the FY 2018 budget.

Senior leadership of NSF will hold a planning retreat for FY 2020 projections beginning the following day. Past retreats have generated many creative ideas including the NSF 10 Big Ideas. Dr. Ferrini-Mundy detailed some of those ideas and there was a discussion on convergence accelerators for science which are designed to tackle tough, challenging problems. NSF has also put in place numerous working groups in support of the President's Management Agenda which will be discussed extensively during this BOAC meeting.

It was noted that changes can be expected in the technology transfer process although few details are available. It was also noted that the recommendations from the Rising above the Gathering Storm report have not been implemented, but those recommendations, e.g. the importance of a global approach and the need for skilled STEM professional workforce, are still needed.

President's Management Agenda – Overview

Presenters: Donna Butler, OIRM; Teresa Grancorvitz, BFA

The President's Management Agenda (PMA): Modernizing Government for the 21st Century was released in March 2018 and lays out a long-term vision for modernizing the Federal Government in key areas that will improve the ability of agencies to deliver mission outcomes, provide excellent service, and effectively steward taxpayer dollars on behalf of the American people. There are three drivers of transformation included in the plan: IT modernization; data, accountability and transparency; and people/workforce of the future. While there are a total of 14 Cross Agency Priorities (CAPs), only two will be discussed at this meeting:

- Results-Oriented Accountability for Grants
- IT modernization

Donna and Teresa provided a high-level overview of the President's Management Agenda which is one of the NSF's primary business drivers along with the 10 Big Ideas, NSF's Strategic Plan, Renewing NSF, and OIG Management Challenges. NSF has four Broad Priorities:

- Making information technology work for us
- Adapting the NSF workforce to the work
- Expanding and deepening public and private partnerships
- Streamlining, standardizing, and simplifying programs and processes

Donna reiterated that goal teams have been established and over the next six weeks those teams will be developing their vision and identifying short term goals. Teresa emphasized that the PMA is strongly aligned with the Renewing NSF projects.

NSF sought the Committee's advice on:

1. Committee's experience in implementing other high-level or cross-cutting initiatives like the PMA and
2. Based on your experience with high-level or cross-cutting reforms/initiatives what are some strategies that facilitated the integration of and commitment to multiple initiatives?

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Discussants: Adam Goldberg and John Kamensky

John explained that the PMA is focused on government-wide goals and in how agencies support the larger PMA goals, e.g. it is not how do we make NSF the best grantmaking agency in the government but how NSF contributes to making grantmaking across all agencies better. He noted that the last time around, OMB provided administrative support to help drive the work of the working groups. Adam lauded NSF as the A+ student but agreed with John that the days of going it alone are over. He reminded NSF that for NSF, grantees are the customers and to use interagency discussions and OMB to leverage the work of other agencies by making an effort to understand how processes work across other agencies. His experience at OMB taught him to think like a customer: Good government is consistent government across all agencies, using identical language to the extent possible. The important question to ask in this process is not just how we make processes more efficient but whether we even need to be doing them.

Discussion: NSF is reminded to remain inclusive, engage everyone and not create ways to exclude certain viewpoints.

Recommendation: NSF is urged to empower its representatives to cross-agency teams with the authority to make decisions on NSF's behalf.

Deeper Dive - Cross-Agency Priority (CAP) Goal – Results-Oriented Accountability for Grants

Presenter: Dale Bell, BFA

CAP Goal #8 of the President's Management Agenda, Results-Oriented Accountability for Grants, is comprised of three overall strategies:

- Standardize data;
- Develop digital tools to manage risk, such as a grantee's past performance and financial management; and
- Implement a maturity model to encourage agencies to structure grant programs that best balance program results and financial management as important aspects of stewarding tax dollars.

The Chief Financial Officer Council (CFOC) is the governing body that is overseeing the implementation of CAP Goal #8 and has set up five working groups to address different parts of the goal. NSF is in an easier position than other agencies with federated missions. As a leader in federal financial assistance, NSF is actively participating in these working groups. The challenge is managing the tension among alleviating burdens on grantees, minimizing compliance costs, and preventing fraud, waste and abuse. NSF representatives are currently working on standardizing data by building on the Data Act definitions, and the Single Audit working group has a goal of using the Single Audit as a tool for a risk-based performance framework so all agencies can have a single review and determination on a grantee.

Committee Action/Feedback: NSF sought advice and perspective from the BOAC on how to ensure that NSF moves forward effectively and efficiently in implementing the PMA Results-Oriented Accountability for Grants and specifically:

1. How can NSF internally organize to support PMA objectives?
2. How can the external community assist NSF with meeting goals?
3. How can NSF work with other Federal agencies?
4. What does success look like?

Discussants: Susan Sedwick and Pamela Webb

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Susan recommended that the NSF continue to leverage its strong position with the Federal Demonstration Partnership (FDP); obtain input from grantee constituencies such as the Council on Governmental Regulations (COGR), the Association of American Universities (AAU), the Association of Public Land/Grant Universities (APLU), the Association of Independent Research Institutes (AIRI) and the EPSCoR community; push for the release of the proposed Research Policy Board; and to look at good examples in the external community (FDP Faculty Workload Survey, UMetrics, FDP Clearinghouse, and the University Industry Demonstration Partnership (UIDP)). Pamela urged NSF to ensure that grantees have the opportunity to provide input that is taken into consideration in a meaningful way; utilize definitions already in use for the Uniform Guidance and NSF Higher Education Research Development (HERD) Survey; eliminate duplicative data input (such as institutional addresses); ensure that there is a shared understanding across all stakeholders of what is considered “acceptable” performance; and ensure that risk is stratified and treated with the appropriate level of emphasis. Both cautioned the NSF on its use of data analytics and provided examples of how those audits have been overly burdensome and yielded little in return.

Discussion: While historical performance is an important consideration, care should be taken to ensure a balanced approach so as to avoid excluding new scientists from funding. A “failed” experiment is not necessarily a bad thing as long as it leads to better science. NSF might not have control over addressing all of the concerns expressed by the discussants, but NSF can certainly provide input with a goal of balancing compliance risk with performance, remembering that less risk is not always better.

Deeper Dive- Cross-Agency Priority (CAP) Goal – Modernize IT to Increase Productivity and Security *Presenters: Dorothy Aronson, OD; Dan Hofherr, OIRM*

The 2018 President’s Management Agenda (PMA) Modernize IT CAP goal is made up of three overall strategies:

- Modernize the Stack;
- Embrace Cloud Solutions; and
- Mitigate Project Delivery Risks

NSF has long been engaged in these three strategies. Dan reminded the BOAC that NSF has been working on modernization of its IT tools for a long time prior to the issuance of the PMA but has examined how those existing targets intersect with the directives in the PMA and how those goals may need to be adjusted. Dorothy covered how NSF will use artificial intelligence, citing that NSF is small and agile and not constrained by the “as is”. The user survey conducted on the proposal submission process will be used as a model to collect user experience with the Interactive Panel System (IPS).

Committee Action/Feedback: NSF sought advice and perspective on how to ensure that NSF moves forward effectively and efficiently in implementing the Modernizing IT CAP Goal strategies while implementing artificial intelligence in the merit review and financial management process and specifically:

1. How can the external community assist NSF with meeting goals?
2. Where in the merit review and financial management processes should these new IT tools be deployed?
3. What does success look like?

Discussants: John Tao and Ned Holland

John suggested that data mined from decades of past work could be provided to the Program Officers and panelists in the selection of awardees. He also urged NSF to work on data security and recommended that

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Fastlane be updated to improve its usability for panel reviewers and program officers during the proposal review process. Ned has found the largest risks to IT security come from internal threats, when software is downloaded, or devices are connected to the network.

Discussion: NSF was applauded for its current and planned use of artificial intelligence in selecting panelists and other peer review processes as that will impact how the IPS will be modernized, noting that current systems are not without problems. NSF has a social media policy so that is positive.

Interaction of Agency CFO and CIO

Presenters: Dorothy Aronson, OD; Teresa Grancorvitz, BFA

Federal CFOs and CIOs are facing a wide range of challenges in managing financial and IT priorities in today's ever-changing environment. Dorothy and Teresa cited the Federal IT Acquisition Reform Act (FITARA) as an example of government-wide requirements that necessitate careful coordination between the CIO and CFO. FITARA was enacted in December 2014 in response to specific federal IT challenges, such as duplication of IT spending between and within agencies, a struggle to understand cost and performance of IT investments, and a lack of visibility into the IT spend.

Key objectives of FITARA include:

- Aligning IT resources with agency missions and requirements
- Strengthening federal agency CIOs' accountability for IT costs, performance, and security
- Enabling effective planning, programming, budget and execution for IT resources
- Providing transparency into IT resources across agencies and programs

An Executive Order released in May 2018 largely echoed the mandates in FITARA. FITARA hasn't been fully effective, as noted by current administration officials, as only half of department CIOs currently report directly to agency leadership as mandated in FITARA. The Executive Order calls out several issues while adding another layer: requiring a place for CIOs as voting members on agencies' IT governance boards. NSF is complying with most of the requirements of FITARA, having a B+ score on the FITARA Scorecard, the highest ranking achieved by only three agencies. Examples of situations where the NSF CIO and CFO worked well together were shared.

Committee Action/Feedback: NSF seeks the Committee's advice on how to ensure the critical relationship between the CFO and CIO best serves NSF.

1. What additional opportunities does the Committee recommend to further build the relationship?
2. Given your experience, what potential roadblocks could occur, either internally or externally, that may diminish the relationship?
3. How can NSF firm up the processes behind the relationship such that it will continue to be strong independent of current personalities in the CFO and CIO roles?

Discussant: Adam Goldberg

Adam stated that NSF needs to exploit the value of this positive relationship and share it among other executive staff at NSF. NSF needs to separate what it takes to keep the IT function running smoothly from experimentation with Artificial Intelligence and robotics. Dorothy clarified that the IT function at NSF is not centralized. Adam also mentioned that NSF should anticipate where data needs to be in the future and areas of integration. Dorothy added that there is a need for overt data governance. Dale Bell is involved

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in this initiative, but it is difficult because NSF has different repositories of data and it is not easy to connect them. NSF does not have a Chief Data Officer.

Discussion: A motivated workforce can do twice as much work as one that is low-risk, well-controlled and constrained. Driven people don't want to measure, they want to create things. NSF must continue to be open to listening to customers' perception of the agency. Internally convening the CXOs is commendable and can be a symbol of collaboration and trust. Externally, all agencies should share their stories.

The meeting recessed at 5:30 for dinner.

Thursday, June 14, 2018

Susan Sedwick reconvened the meeting.

BFA/OIRM/OLPA/Budget Updates

Presenters: Donna Butler, OIRM; Teresa Grancorvitz, BFA; Rob Moller, OLPA; Tony DiGiovanni, BFA

Donna announced numerous changes in interim and permanent leadership positions at OIRM. Joanne Tornow's role as acting Assistant Director of the Directorate of Biological Sciences (BIO) has led to a "waterfall" effect. Leadership changes in OIRM

:

- Donna Butler, Acting Office Head
- Wonzie Gardner, Acting Deputy Office Head
- Javier Inclan, Acting Division Director, Division of Administrative Services (DAS)
- Peggy Gartner, Acting Deputy Division Director, DAS
- Dan Hoffherr, Division Director, Division of Information Systems (DIS)
- Teresa Guillot, Acting Deputy Division Director, DIS

The records management training program was lauded by NARA. There is one week left in Federal Employee Viewpoint Survey (FEVS) data collection. The results will be available in late August. NSF has always enjoyed excellent participation and is currently at 61 percent participation rate, on track for another great participation percentage. NSF's new proposal submission system launched in April and that marks the first phase in replacing Fastlane. NSF is beginning the move of all systems to the Cloud.

Teresa announced that she has been named permanent CFO and Caitlyn Fife is the new Budget Division Chief. Other leadership changes in BFA:

- Bill Miller, Acting Deputy Office Head (permanent Deputy Office Head to be announced soon)
- Keith Boyea, Branch Chief, Contracts, Division of Acquisition and Cooperative Support
- Michael Sieverts and Janice Hagginbothom retired

The FY 2018 Financial Statement audit is underway, and the DATA Act implementation is going well. GAO is happy with progress on major projects and the BOAC subcommittee on cost surveillance is making good progress. The NSF purchasing card limit is being increased to \$10K in accordance with the government-wide NDA directive.

The House markup of the FY 2019 budget looks favorable and the Senate markup was anticipated to be released on the day of the meeting. Rob provided an overview of the FY 2019 process. The Budget Control Act increased the caps for Defense and non-Defense. There are 40 legislative days left in this session. NSF is enjoying strong support in Congress.

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Discussion: One of the BOAC members asked if NSF was aware that there is a draft FACA termination Executive Order. The Association of Public Land/Grant Universities (APLU) has seen the draft. Donna Butler stated she would follow up and report back to the BOAC. There were questions about shared services to which it was noted that currently the cost is prohibitive, but NSF is trying to get more information and is working with Shared Services Management. To the comment that NSF might consider outsourcing shared services management, one BOAC member urged NSF to stay with the government organization.

Framing Leadership in Customer Service: BFA and OIRM

Presenters: Wonzie Gardner, OIRM; Bill Miller, BFA

BFA and OIRM provide agency leadership in management and operations at NSF, and have many internal and external NSF customers and stakeholders, including Directorates and Offices and their programs, the external U.S. research community and institutions, and federal and congressional stakeholders. OIRM and BFA also coordinate on many levels to conduct their activities. The past year has been challenging, given the NSF move, settling into the new building, the prolonged budget process, extensive efforts at IT modernization, and planning to operate in new ways with NSF initiatives such as the 10 Big Ideas, Convergence Accelerators, and introduction of Enterprise Risk Management.

Committee Action/Feedback: NSF asked the BOAC to consider the following “framing” questions regarding OIRM and BFA’s customer service and leadership in their areas of expertise to 1) assist NSF in going from “good to great” in these areas; 2) identify any evident gaps, and opportunities given the evolving operations and technology landscapes; and 3) help NSF to maintain and extend its leadership in advancing science and engineering research:

1. Know our customers. How do we maintain strong productive relationships with internal and external customers and stakeholders?
2. Measure ourselves. What are the best means and metrics to assess our effectiveness in serving our internal and external customers?
3. Serve the NSF Mission. How do we ensure that everything we do enables the NSF mission and works toward the advancement of science?
4. How do we best manage our relative roles in customer support, coordination, and leadership within NSF and in the federal sphere?
5. Are there new approaches we should pursue to support new NSF strategies and initiatives (Big Ideas, Accelerators, ...)?

Wonzie reiterated that the leadership in OIRM and BFA get along well as everyone supports the shared mission to get grants out as quickly as possible. With any organization, there is inherent tension between administrative services units and programmatic units but people at all levels at NSF are very dedicated to the NSF mission and create good ideas. In the GSA Support Services Survey for 2017, NSF ranks lower on the cost side but ranks very high on the customer satisfaction side. Are these good benchmarks and metrics for NSF?

Bill outlined several customer service challenges that NSF has been experiencing this year many of which were associated with the physical move of the NSF headquarters. The extended budget process with multiple iterations takes a toll, even when the outcome is very positive for the NSF.

Discussants: Jan Jones and John Palguta

John reminded NSF of the importance of knowing its customers. NSF has done a good job of identifying its primary customers, but it is important to have a reliable way to inform those customers and to elicit input. NSF should continue to strive for full participation in the FEVS. John reminded NSF of the importance of

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managing expectations since customer service and satisfaction are inextricably linked to delivering on expectations. John reminded the NSF to be very careful about the quality of the questions and to remember to ask what is going well. Best metrics are those that both management and the customer think are important, and NSF should avoid the tendency to over-measure. He suggested collection of both qualitative and quantitative data through focus groups, interviews, etc. Resources will always be finite, so it is important to pay attention to how the money is being spent. Be aware that you are spending a lot of money to seemingly get great customer service results.

Jan stated that an engaged employee is going to be inclined to provide good service. Engagement happens at the point of delivery, thus supporting the idea that engagement in the public sector requires awareness of mission as opposed to in the private sector, where the bottom line is usually the gauge. It is important to ensure that service is embedded in systems functionality and training.

Discussion: The American Customer Satisfaction Survey and Benchmarks and Data.gov are good resources. NSF was reminded of the importance of sorting results and to pay attention to the middle. NSF should think about how metrics will look both internally and externally. The tradeoff of cost and customer satisfaction was also discussed.

Establishing and Maturing an Enterprise Risk Management (ERM) Culture at NSF

Presenters: Mike Wetklow, BFA; Rafael Cotto, BFA; Charisse Carney-Nunes, BFA

The Office of Management and Budget (OMB) updated Circular A-123 "Management's Responsibility for Enterprise Risk Management and Internal Control" to ensure federal managers are effectively managing risks an Agency faces towards achieving its strategic objectives and arising from its activities and operations. In 2016, the Office of the Chief Financial Officer (OCFO) facilitated the process of preparing NSF's initial risk profile by collaborating with stakeholders from across the Agency. Since then, NSF has made significant progress by (1) completing its first risk profile, (2) securing strong leadership support from the Director and engaging the National Science Board (NSB), (3) implementing a five-step ERM framework, (4) incorporating the Harvard Business Review framework for communicating risks, (5) integrating internal control risk assessments, and (6) incorporating ERM into its strategic plan.

As NSF continues to mature its ERM program, the Agency seeks to create a community of practice regarding ERM techniques and analyses. NSF is well poised to achieve this goal. Assessing risk has always been at the core of making funding decisions to support science. NSF's primary goal is to demonstrate the value of ERM, so Agency leadership can leverage it to identify strategic opportunities, make decisions about risks, and build consensus with the Office of Inspector General on top management challenges. NSF will prepare an updated risk profile in June 2018 that it will discuss with OMB as part of the government-wide strategic reviews. In addition, the Agency is planning to have a discussion with the National Science Board about ERM in July 2018.

ERM is now the policy of the government and embedded in the PMA. NSF is striving not to add ERM on to what NSF is doing but rather to build it in organically. An example is the Director's Watch List. OMB concurred with NSF's plan and OIG discussed road rules on collaboration toward integrating ERM into the NSF Strategic Plan and Internal Controls Program using the Harvard Business Review framework. Each year the NSF OIG publishes a list of risks in the agency financial report. One challenge is that the list doesn't seem to get resolved through moving things off; new issues rise higher on the list.

Committee Action/Feedback: BFA sought advice from the BOAC to ensure that NSF continues to mature its ERM framework and establish a community of practice as we move to obtain full buy-in from NSF senior managers.

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1. What are the strategies and best practices that can help us mature ERM and move it from an OCFO mindset to an NSF mindset?
2. What actions can we take to continue to develop NSF's ERM governance structure?
3. How have you changed your organizational culture to create an ERM community of practice?

Discussants: Doug Webster and John Kamensky

NSF was complimented on its focus on the long-term rather than on the annual cycle, but cautioned about having the IG as the framer for the conversation about risk. Several external risks were identified: the PMA, changes to the FACA, and changes to intellectual property law. Culture and definitions are important especially when working across agencies. At the core of ERM is identifying the portfolio of risks. It is an enterprise-wide conversation about how those risks are prioritized on the whole especially those with strategic impact. Look at risks that you may be over- or under-managing relative to what is really required. Mike cited the example of improper payments. The NSF definition is different than that of other agencies.

Discussion: In the private sector, having risks is seen as a part of doing business and senior officers report to a board of directors on risks. The public viewpoint is very different, and some risks may not ever "go away" but it is important that senior leadership understands and is aware of the heat map viewpoint of the risk portfolio. Reputational risks are sometimes the most worrisome. Think about NSF risks in the scheme of the larger government-wide risk heat map. Accountability is a key component of a good risk mitigation strategy and predicting what it will look like after applying the mitigation strategy. Unfortunately, the really big catastrophes cannot be anticipated in a rational way. Transformational research involves risk and strong leadership understands that taking risks underpins truly great research.

Recommendation: Consider having an external consultant (e.g. an up-and-coming SES candidate) to give NSF a fresh view.

Committee Business/Wrap Up

Topics suggested for the next meeting were: 1) An update on Renewing NSF; 2) an update from Strengthened Oversight of Large Facility Cost Surveillance subcommittee; 3) the results of the 2018 FEVS; and 4) a report on the outcomes of the Use of Cooperative Agreements for Large Scale Investments subcommittee.

The meeting was adjourned at noon.