

National Science Foundation
Business and Operations Advisory Committee
Executive Summary for Spring 2015 meeting
May 27–28, 2015

Committee Members in Attendance

James Barbret (by telephone)	Wayne State University
Warren Buck	University of Washington, Bothell
Lee Cheatham	Brookhaven National Lab
Marti Dunne	New York University
Charles Grimes	Consultant
Michael Holland	New York University
Cindy Hope	University of Alabama
Greg Jackson	Consultant
Jan Jones	Retired
Alicia Knoedler	University of Oklahoma
John Palguta	Partnership for Public Service
Susan Sedwick	Attain LLC
David Spencer	WTe Corporation
John Tao	O-Innovation Advisors LLC
Joe Thompson	Consultant
David Trinkle	University of California-Berkeley
Doug Webster	US Agency for International Development

Announcements

Greg Jackson presided over day one and introduced the three new members join the BOAC: John Kamensky, Chuck Grimes and Lee Cheatham. Lisa Devon Streit has taken a new job, and as a result has decided to leave BOAC.

Updates

BFA/OIRM (Marty Rubenstein & Joanne Tornow)

- Joanne Rom, Deputy Assistant Director of BFA, is retiring after 40 years at NSF
- iTrak for which cost has exceeded budget projections is now in the stabilization phase.
- A draft of the new Proposal and Award Policies and Procedures Guide (PAPPG) was published in the Federal Register, including clarification of NSF's "two-month salary rule."
- BFA is working with OIRM to modernize the Award System which will be a three to four-year effort.
- NSF has drafted their first implementation plan of the Digital Accountability and Transparency Act (DATA Act).
- NSF has sent emails to awardees and PIs reminding them to use ARRA funds before they lapse.
- NSF's appropriation for FY2015 is \$7.3 billion and represents a 2% increase over 2014.

- OIRM continues to prepare for NSF's relocation to Alexandria. Delays have been resolved and work is progressing. GSA is negotiating with the lessor on the building completion date.
- NSF was noted as a top performer in the recent FISMA audit with a 90% compliance rating.
- NSF has developed a new policy on preventing and addressing workplace violence.
- Security at NSF is being enhanced. Security officers now visually inspect visitors' badges before they are allowed to enter NSF

OLA (Tony Gibson)

- Reauthorization of the America Competes Act (H.R. 1806) would set specific authorization levels for NSF's research Directorates. It would shift support to and from certain Directorates from NSF's Request levels.
- The House Appropriations Committee approved the FY2016 Commerce, Justice, Science and related agencies bill, which includes NSF, on May 20, 2015. The NSF budget is \$50 million above FY2015 levels. As of now, agencies are still under the budget caps that were instituted by Congress several years ago. It remains to be seen how this will affect the appropriations process moving forward.

Questions & Discussion

- Were any of the science Directorates "held harmless" in the reauthorization bill? Any latitude in shifting funds around to more adequately support Directorates that were being significantly cut?
 - Staff focused on educating lawmakers about NSF. Some flexibility on these budget concerns might be possible as the House and Senate negotiates their difference on the bill in conference.
- Is the expense for NSF relocation a separate line item in the budget and might it be reduced by Congress?
 - There are contractual obligations at this point for many of the relocation expenses. NSF has the authority to move funds between accounts.

Theme: Business Processes

NSF Relocation (Dominica Gutierrez)

- Phase I of the process involved identifying 56 core services and determining the level of impact (significant, moderate or minimal) that the relocation would have on them.
- During Phase II, the team considered how the services were currently being provided and how those services would change, assessing alternatives as well as budgetary requirements.
- Future phases in this process will include tracking the implementation of the changes to these services and course corrections, as appropriate, as well as monitoring new opportunities that the new location offers.

Questions & Discussion

- Work relationships are important to the health and productivity of organizations, so a big part of the impact of relocation is employees' feelings about the move. Human factors play a key role in the success of such an endeavor. How is NSF addressing that?
 - Human factors, or "adjacencies," are an important part of this process and NSF has been actively engaging employees in planning for the relocation.
 - When planning for the location of various directorate offices in the new building, the Relocation Team was working to ensure that NSF organizations would stay

- together and be situated near other organizations with whom they work on a regular basis. Employees will continue to be involved in this planning process.
- Transparent communication with NSF employees must be a priority for the Relocation Team. It is critical to build a sense of community with all stakeholders, especially employees.
 - When work station space issues were being negotiated, there was not much communication with staff. However, a SharePoint site has been established for the relocation effort, articles are a regular feature of the staff newsletter, and monthly tours are provided to staff at the new building site.
 - Although engineers and financial personnel are managing the relocation details with efficiency, NSF needs to address the human aspects of the relocation. It is important to build internal commitment from employees for the move or people may become unhappy and leave, causing even more disruption. At a time when Congress has expressed interest in reducing the funding for the SBE Directorate (which includes programs that study the human factors of decisions), this sends a message that such things aren't important.
 - Two meetings ago there was a discussion about how input on work station space was made available through the use of mock-ups, field trips to the building site and other aspects of relocation planning which indicated that NSF had not ignored the human factor in its plans.
 - There are a numerous issues related to the move. NSF is committed to have employees engaged in making the new building what they want it to be. However, the theme of this meeting was to touch on some other areas, most notably the impact on business processes.
 - Posting for a Talent Acquisition Coordinator in the BIO Directorate sounds like an interesting idea.
 - This person will focus on the recruitment and retention of rotators.
 - BIO worked with the Division of Human Resource Management to develop the position to address recruiting needs.
 - Which of the 56 services identified by OIRM were most concerning when planning for the relocation?
 - The planning for some of the services is further along than others. Security is an ongoing concern but the planning has helped to focus on the important issues.
 - Ensuring that NSF's core businesses run smoothly during the transition and move is a top priority. The functionality of the furniture in the new space gets at the human side of the relocation. NSF staff have been able to try prototypes and give feedback.
 - Will security in the new building require additional staff?
 - This has been a component of the budget projections. Options include contractual support or additional permanent staff.
 - Project management is a critical component to an effort like this with many moving parts. A project management professional would use earned value management as a technique for measuring project performance and progress objectively.
 - There are stakeholders for each aspect of the relocation project, some of whom are project management professionals.
 - Having an overall project management professional would pull all the pieces together.
 - That will be incorporated into the Phase III planning process.

- Videoconferencing services should be tested in the new building to ensure that everything works before it is used for the first time.
 - NSF is looking at state-of-the-art conferencing services for the new building and the Committee is assured that the system would be tested before using it.
- Employees are concerned with how their situation compares to others. Issues of equity loom large with people. Ultimately, there will be someone who has to make the decisions and explain them to employees, especially as a new President comes into office with his/her new administration and the timing of that will coincide with the move. There should be recognition on how that may affect NSF just as it readies for the move.

iTrak Implementation (Gisele Holden)

- In regards to the iTRAK Super users---is it more work in iTRAK?
 - Yes. NSF brainstorms with super users to help mitigate the impact.
 - Can we come up with improved reporting?
 - Super Users are the best resource to achieve overall buy-in.
- Super Users say there is too much work but maybe this is because they are not experts anymore because they have to learn everything again from scratch. Could this be because they are scared or intimidated?
 - NSF does one-on-one meetings and provides job aids, to help get over the learning curve.
 - NSF communicated to expect a dip in work production the first year per town halls.
 - Some people are reluctant or fearful and don't want to change.
- How does NSF compare to other agencies with similar implementations?
 - NSF is the first agency in last 6 years to bring in project on time and on budget for development.
 - NSF planned ahead for 4+ years. Understood culture and had senior management buy-in.
- Is there standardized documentation?
 - We have detailed job aids with step-by-step instructions and screen shots. Refresher courses on Learn NSF.

Operational Change

Principles (Jan Jones)

- General
 - People/culture aspects- change management from employee perspective
 - Project management important- needs experienced staff and clear roles and responsibilities.
 - Senior leaders needs to be visible to get out the message and take ownership. Both the good and the bad news.
- Map the Plan
 - Project management plan with tools and task tracking
 - Project staffing important
 - Need to think of all the details Identifying control points, bottlenecks, resource changes
- Manage the Partnership (with stakeholders)
 - Frequent communication
 - Pilots/parallel testing

- Identify modified policies and procedures
- Need to Measure the Performance
 - Anticipate post-implementation changes
 - Identify metrics
 - Constant feedback from customers

OPM remodeling (Chuck Grimes)

- Successes
 - Project manager tracked current and future state to the employee level
 - Used CAD system
 - Early Communication plan
 - Leaned heavily on GSA
- Lessons Learned
 - Communications plan should be done at the start of the project.
 - Build rapport with the union. Negotiate parameters rather than particulars.
 - Deal firmly with outlandish requests. Is the change going to help the business?

Committee Discussion

- Is the reengineering just moving work from one place to another or is it taking unnecessary work out of the system?
- Need broadly based buy-in on metrics. One directorate's metrics may be different or in conflict with another's.
- Need presence of senior leadership for support and to recognize pain points.
 - Town hall meetings- take the hits when necessary.
 - Walk around and be visible.
- 4th element to add to Jan's points above is "Need to Learn."
 - Are we changing? Have things gotten better?
- Though the relocation and iTRAK are "mandatory" projects, are there wins such as process improvements that can be realized?
 - Does the move provide opportunities to improve work/increase efficiencies?
- Can some changes be implemented early while still in the current building?
 - Yes, where possible, through there are resource capacity issues.

Discussion with Dr. Buckius

- Jan Jones and Chuck Grimes summarized the discussion on business processes that they led on Day One.

Discussion

- NSF's unique strengths should be used to its advantage; for example, its low infrastructure costs (6 cents of each dollar spent) and 40% of the employees here being temporary (mostly through IPAs).
 - Buckius: France Córdova considers building safety an important issue but that we have a lot of opportunity with the move.
- NSF is moving into a new space, not a space that was previously occupied and would need to perform the additional steps of making sure everything in the building is working along with regular move activities. NSF should set up a way to communicate to everyone, such as an electronic portal, to let people know what is being done, going to be done and to avoid duplicate reporting of problems associated with the move.

- Make sure everyone has an opportunity to express views. Draw on NSF’s strength as an agency of innovation.
 - Buckius: The three highest concerns at NSF right now are workload, workforce inclusion and safety. It is a huge challenge to simultaneously move to a new location while continuing the business of NSF.
- NSF should collaborate with the labor union, as the union has doors to communication that management lacks. NSF’s retention rate needs attention – there are significant costs to a new hiring program. It is critical to keep a sense of humor.
- NSF should use GSA’s expertise more.
 - Buckius: There is a need to focus on hiring and retaining employees and Dr. Cordova wants to work with the union toward this goal.
- NSF has brought in a senior-level GSA manager with experience in moves and that person is having monthly meetings with stakeholders including NSF, OMB and GSA.
- NSF needs to set tone at the top with high level visibility, keep employees in the direct communication chain, and use the project plan as a medium for communication.
- Need to display broad appreciation of staff contributions by thanking each person personally. This should come from all levels of leadership.
 - Buckius: Dr. Cordova and he would agree, especially knowing the positive impact of her recent letter to all employees recognizing their public service.
- Moving to a “new” space is more difficult than moving to an already existing space. NSF should consider hiring temporary runners to go get things for people during the move, but position them in the building prior in order for them to become familiar with the building.
- It is important not to over-promise. This would result in increased employee insecurity if NSF doesn’t deliver.
 - Buckius: Great value in B&O Advisory Committee assisting NSF with its real experience challenges.

Documentation of BOAC Recommendations

- Presentation by Charisse Carney-Nunes (“Documentation of BOAC Recommendations: Historical look back of the Committee’s impact on the National Science Foundation”).
- She was joined by panelists from the Division of Human Resource Management (HRM): Karen Tiplady, Division Director, Division of Grants and Agreements; Amber Baum, Staff Association for Performance, Budget Division; Amanda May, Senior Human Resource Specialist, Division of Human Resource Management; and Chrissy Peterson, Branch Chief, Employee Relations Branch, Division of Human Resource Management.
- HRM reviewed the spreadsheet containing a list of all recommendations BOAC has made since its inception to infer: 1) What had the committee recommended? 2) What had NSF done with regard to those recommendations? And 3) Did the resulting actions enhance NSF’s business operations?
- The presentation focused on four specific BOAC recommendations and their respective impacts.
 - **B&O Subcommittees.** A recommendation to pursue the use of sub-committees resulted in the establishment and elevation of the idea of stewardship as a strategic goal.
 - **Level the workload.** With regards to leveling the proposal deadlines and awards issuance, a letter of recommendation was sent to BFA and the recommendation was given special emphasis. Measurements set up with aggressive quarterly goals. This

was followed for two (2) years. The roll-out of the new financial system unfortunately coincided with the federal government shutdown which had an impact on the achievement of the goals but those involved believe workloads were distributed much better over the year than they had been before. NSF will not go forward with these goals in the future but that it has been helpful to the community.

- **Strategic planning.** NSF was able to implement some of the requirements of the GPRA Modernization Act (GPRAMA) such as standardization of language regarding goals and targets. So far, there has been increased awareness of what is in the Strategic Plan among leadership while there is work to be done on the alignment of objectives and goals to performance.
 - **Workforce challenges.** The first year after the recommendation was made, HRM made the nomination process for the Director's Award transparent. HRM got agency input via IdeaShare and changed the types of awards to emphasize roles, like "sage" and "pioneer". Feedback has been positive. NSF should make the development of an approach for recognizing and rewarding a priority. HRM is reporting the recommendations to the Director for review and looking for ways to build recognition of work into NSF's culture not just via awards.
- The Committee's support has helped move these ideas forward.

NAPA Study of NSF Large Scale Cooperative Agreements (Korsmo)

This session provided an overview the ongoing study on how NSF funds Large Research Facilities using Cooperative Agreements. The National Academy of Public Administration was enlisted to conduct a study which kicked off in April. NAPA conducted interviews inside and outside of NSF. One panel meeting held, with good questions and discussion. Going forward, the BOAC can be helpful in implementing recommendations.

- This study arose out of Inspector General concerns expressed regarding accountability for large item awards using Cooperative Agreements instead of Contracts. One of the specific concerns expressed is that contingency funds built into approved budgets were expended in support of projects at the discretion of the awardee instead of requiring agency level review and approval.
- While the NSB approves these large investments, can NSF improve funding processes to ensure greater accountability?
- The Final report is expected in December 2015.

Questions/Recommendations from BOAC:

- What is the percentage of success the awards bring? How successful is the project in the end? And how do you measure success after the award without being intrusive?
 - How do you explain success? Through portfolio analysis, assessing if project is on schedule and on budget and whether projects have delivered near expectations.
- There is a sense that projects haven't delivered near expectations. Cooperative agreements have lots of moving parts. Are cooperative agreements successful?
 - Operating facilities in service have active user committees. NSF is the steward and facilities are monitored very carefully to determine if they are scientifically viable. Monthly reports are completed. Facilities' scientists are hiring project management staff.

- Focusing on discovery, is NAPA looking into the front end of the cooperative agreement? NSF and the awardee must define, in measurable terms, what the facility is to accomplish. While NSF understands that facilities are built to enable scientific discovery, NSF must work with facility teams, prior to the final award of funds, to understand the model of service delivery for the proposed scientific facility. NSF must work with scientists to clearly define [1] a facility's or project's scientific goals; [2] the processes that will be used to manage the project during the construction and, separately, during operations phases; and [3] the set of quantitative and qualitative performance metrics NSF will use to evaluate performance against design criteria and the quality of the user experience. NAPA has to be sure we understand purpose of exercise and what needs to be measured: project management, project design and well defined goals and objectives are needed to meet project needs.
- Is NSF looking for one cooperative agreement to fit all? Study should be looking at this. Cooperative agreements would be very unique to that facility; provisions would be specific to facility.

Broadening Participation, NSF & Beyond (Knoedler)

NSF's Committee on Equal Opportunities in Science and Engineering (CEOSE) produces reports every two years and they are currently working on the 2013-2014 report. The most recent report available online is 2011-2012.

- CEOSE is interested in the success of broadening participation programs.
- Broadening Participation Working Group is crosscutting across NSF, making short, mid and large scale recommendations – providing spreadsheets that are available online, IdeaShare has an activity about broadening participation - expect to get report in June.
- Last CEOSE Meeting – 2014 framework for action.
- 2008 Framework - Broadening Participation website, Best Practices, CEOSE reports include amount of funding for broadening participation programs.
- 2014 Transparency & Accountability innovative ideas: communicate to community regarding broadening participation.
- Broadening Participation provides access, and inclusion is important. In an organization (like NSF or institutions, companies, organizations), it is not one person's responsibility to do so; we are all responsible for broadening participation.
- NSF INCLUDES is proposed with a \$15 million budget to:
 - Transform frontiers of science and engineering.
 - Stimulate innovation and address societal needs through research and education.
- ADVANCE – prior programs can be incorporated.

Questions/Recommendations from the BOAC:

- Relationship with initiative and priority goal around STEM (women and minorities)?
 - CEOSE is not solely responsible to say what is best or most effective. Be more integrated throughout NSF and beyond outside liaisons. DOE and NIH give reports on other agencies regarding broadening participation. There is not one quick answer.
- Industrial Research Institute – has 200 + members for 500 STEM initiative as well as research and education. Recommend touch base with NSF-CEOSE and Industrial Research institute, may need a liaison from that group.
- Data is subjective; be careful. Look at data in context. Pleased to hear that things are being looked at in the broader sense. Glad group is looking holistically – minorities getting into

NSF is difficult and it will take time, but progress is needed. Chances and risks have to be taken, but it may not pan out. Managing the risks is NSF's job.

- CEOSE heard a report regarding virtual panels last year. Use of virtual versus in-person panels could be one way to increase regional diversity. EPSCoR states were not well represented in the virtual panel report; Since that time, the EPSCoR community has received emails calling for more reviewers in the Graduate Research Fellowship Program review panels from EPSCoR states.
- NSF's Graduate Research Fellowship Program (GRFP) had large EPSCoR representation; 1600 panelists (virtually), many from EPSCoR states.

Thoughts for the Future

- Clear, consistent future efforts to implement process changes need early and continuous project management. Secondly, any effort needs to have active two-way communication among all involved.
- Active two-way communication with built in feedback. Need internal reports assessment and feedback.
- Project Management – many aspects – example is the “Big Move” (which is temporary). Project Management Office emphasizes that it is not one person and that it is continuous.
- Daycare solution should be announced early so people can plan.
- NSF Food service: do not underestimate the difficulty of providing such a service, this is a huge deal.

Committee Recommendations

The BOAC recommends the following change management strategies (all but the first recommendation are specifically related to the relocation to NSF's new headquarters):

- Engagement with the labor union is urged as it is critical to successful change management.
- Senior management must set the tone from the top and be visible and actively engaged.
- Communications must be two-way, transparent and ongoing.
- Use GSA experience in project management.
- Consider hiring temporary runners/maintenance to mitigate the challenges of being in a new building where lack of familiarity is pervasive.
- Solutions to the daycare and sparse food service options should be a priority.

The meeting was adjourned at approximately noon.