



2017 & 2018 BOAC Subcommittee Reports Related to Major Facilities

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December 12, 2018



Overview

- Subcommittee Report on NAPA Implementation – March 2017
 - NSF Resolution of Recommendations
 - New Governance Structure
- Subcommittee Report on Cost Surveillance – Dec 2018
 - Initial discussion on Findings & Recommendations



Subcommittee Report on NAPA Implementation – March 2017



Related Legislation

- American Innovation and Competitiveness Act (AICA) – Jan 2017
 - Close alignment with NAPA Recommendations
 - **§ 109 – Mid-Scale Project Investments:**
 - Defines a new category of funding research instrumentation, equipment, and facilities upgrades
 - **§ 110 – Oversight of NSF Major Multi-User Research Facility Projects:**
 - Strengthens oversight and accountability over the **full life-cycle**
 - **Calls for senior agency official appointment**
 - GAO Cost Estimating and Assessment Guide
 - **Independent Cost Estimates** > Flexibility on timing and scope
 - **Incurred Cost Audits** > Risk-based, at Completion, NTE 3 years
- Program Management Improvement and Accountability Act – Dec 2016



Resolution of Subcommittee Recommendations

- Completed per the Recommendation = 8
- Completed with Alternate Approach Taken = 6
- In Development = 2
- Under Consideration = 2
- Not Implementing = 3

See Summary Table Provided



Chief Officer for Research Facilities (CORF)

- **Purpose:** Advise the NSF Director on all aspects of NSF major and mid-scale facilities throughout their life-cycle, and collaborate with all at NSF who are involved in oversight and assistance for the NSF research facilities portfolio.
- **Appointed starting in January 2018:** Fulfills AICA requirement and BOAC subcommittee recommendation for major research facilities full life-cycle oversight and Senior Official in the Office of the Director.
- Duties:
 - Ensure that oversight and accountability for the major facilities portfolio are addressed at all levels of the agency
 - Chair the Facilities Governance Board (FGB) and Facilities Readiness Panel (FRP)
 - Chair the Major Facilities Working Group (MFWG) composed of Accountable Directorate Representatives (ADRs)
 - Observer of the Director's Review Board (DRB)
- Bridge between BFA and Science Directorates
- Routine engagement with Head of LFO and Directorate Staff



Facilities Governance Board (FGB) - New

- **Purpose:** Oversee full life-cycle of Major & Mid-scale research facilities
- Duties:
 - Advise the Director on strategy, governance, implementation
 - Approve Large Facilities Manual (Major Facilities Guide) and Major Facility SOGs/SOPs
 - Provide oversight & maintain situational awareness
 - Recommend to Director on renewal, competition, or divestment
- Membership:
 - CORF (Chair)
 - Assistant Directors for MPS, GEO, BIO, CISE, ENG
 - Chief Financial Officer (CFO)
 - As required, other members of NSF leadership
- Meetings: As required, typically ~quarterly. Approval processes generally conducted by e-mail rather than face-to-face, with advice from ADRs for each directorate.

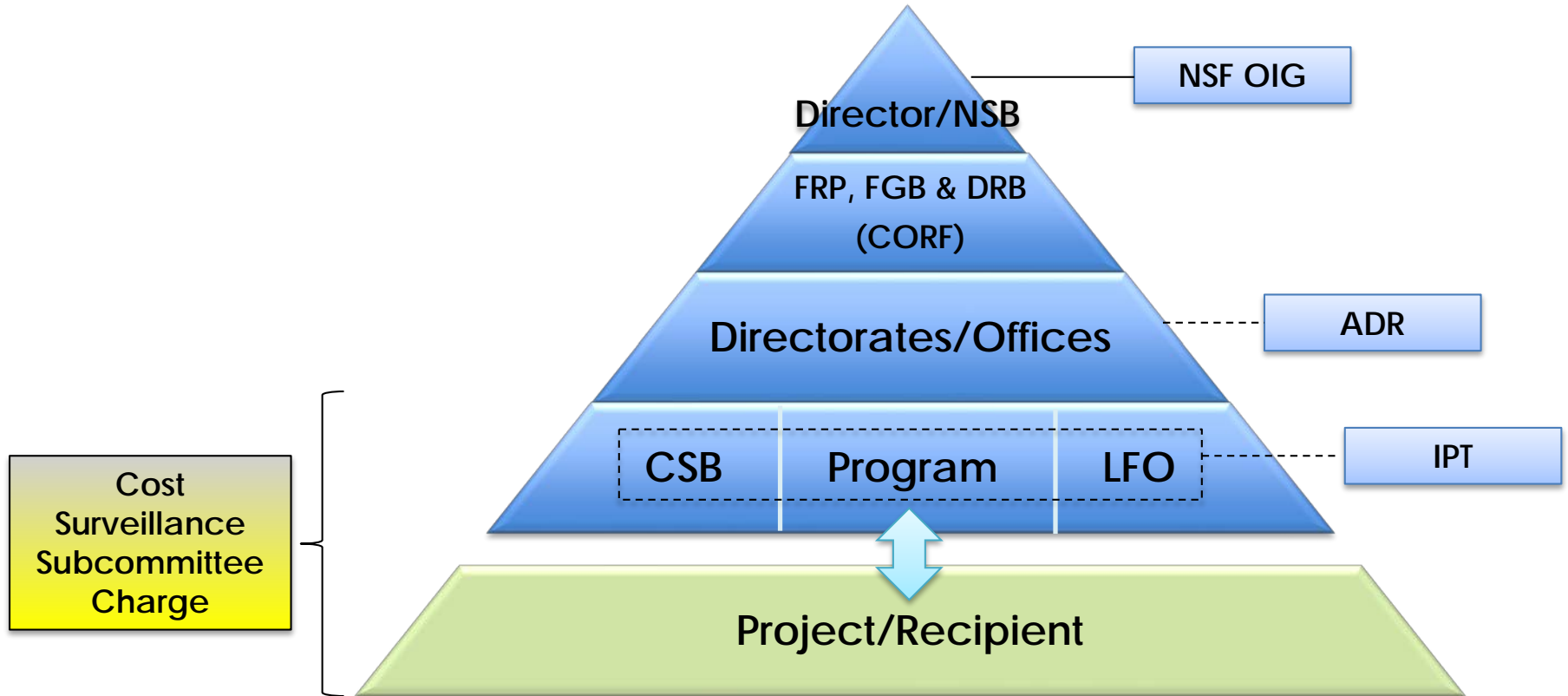


Facilities Readiness Panel (FRP) – Formerly MREFC Panel

- **Purpose:** Advise Director on readiness to advance projects within the formal Design Stage including advancement to Construction:
 - Assess if risks identified and properly considered
 - Consensus assessment of Recipient & Program
- **Membership:**
 - CORF (Chair)
 - Head, LFO (Vice-Chair)
 - Head, Office of General Counsel (or Designee)
 - Division Director, Division of Acquisition & Cooperative Support
 - At least 4 senior Program Officers, Section Heads, Deputy Division Directors or Division Directors (at least 3 from MPS, GEO, BIO, CISE, or ENG) selected based on expertise required for review of a specific project
- **Meetings:** Ad hoc



NSF Oversight & Governance Structure





Subcommittee Report on Cost Surveillance – December 2018



First and foremost...
Thank You!!



Internal and External Drivers of Strengthened Oversight

- NSF Office of the Inspector General (OIG) reports focusing on NSF's cost oversight of policies and practices **(2010-2015)**:
 - OIG Alert Memo “NSF’s Management of Cooperative Agreements” issued September 28, 2012
- NEON potential \$80M cost overrun – **March 2015 (Managing organization replaced)**
- NAPA Report - **December 2015**
- Congressional interest
 - American Innovation & Competitiveness Act (AICA) – **January 2017**



Subcommittee Charge

*“The Committee hereby charges the Subcommittee to prepare a report for the Committee in support of the Foundation’s goal to ensure that its current cost surveillance policies and procedures are sufficient to ensure sound, end-to-end oversight of all NSF Large Facility construction and operations awards. Specifically, the Subcommittee should review and **evaluate NSF’s current oversight framework** relating to Large Facility costs including the following: **(1) proposal cost estimates; (2) NSF cost analysis of those estimates; and (3) post-award cost and performance monitoring.**”*



What the Charge did not intend to include:

- NSF use of Cooperative Agreements
- NSF oversight & governance Structure
- NSF determination of indirect cost rates
- Fee (“above cost”)
- **No Cost Overrun Policy**



Findings & Recommendations:

- ***NSF's processes are sufficient to ensure compliance with their intent and application as well as the continued improvement and use of cost estimating/analysis and surveillance procedures going forward***
- Continue the appropriate implementation, verification and utilization of EVMS
- Consider consolidating SOGs, manuals, and other policies and procedures into a single document or series of focused documents



Findings & Recommendations:

- Revise hierarchy preferences for methodology used for estimating purposes:
 - 1st - Actual/historical data
 - 2nd - Analogous data
 - 3rd - Parametric data
 - 4th - Expert opinion
- An ICE should be **conducted as early as possible** to inform possible trades and descopes
- An independent schedule estimate (ISE) should be performed in concert with the ICE for enhanced confidence
- Consideration needs to be given to updating the IMP on a regular basis



Findings & Recommendations:

- “...evaluation process and its documentation was less than satisfactory.”
 - Processes not closely/consistently followed
 - Misinterpretation of what is intended?
 - Time available?
 - Knowledge of the personnel performing the analysis?
- “The traceability of **non-negotiable science and or technical performance requirements** is not apparent or traceable from the products.”



Findings & Recommendations:

- *“Estimating only known risks will lead to underestimating the costs, as there is uncertainty in all complex developmental projects; this discovery is understood in project management and cost estimating communities and such risks are known as “unknown-unknowns.”*
- Core competency recommendations for recipient staff who support the administrative and management aspects of large facilities projects: *“The magnitude of the awards and the tremendous complexities of the projects requires that **recipients bring the necessary expertise to the management, including post award responsibilities**, of any large facility activity.”*



Questions?