

Report of the Subcommittee on NAPA Implementation – March 13, 2017

Summary of Recommendations & Resolution

Matt Hawkins, Head, LFO

Rev: 12/07/18

#	Pg	Text of Recommendation	Life-cycle Stage	Resolution
3.1	10	Strengthen the role of the MREFC Panel during the project development stage by amending §2.2.1 of the LFM to require approval from the MREFC Panel prior to development activities. The focus of this approval should be on defining the capability gap and preliminary functional requirements needed by the Directorate.	Development	ALTERNATE APPROACH: The Chief Officer for Research Facilities (CORF) was appointed in December 2017 as the “Senior Official” in OD responsible for full life-cycle oversight. Late stage development activities are discussed with the CORF and formal transition to the Design Stage is considered a strategic agency decision not involving the new Facilities Readiness Panel (See 3.3 below). The CORF is an integral part of Senior Leadership and shares information on Development Stage activities through close, routine interaction with the Accountable Directorate Representatives (ADRs).
3.2	10	Strengthen the role of the MREFC Panel during the operations stage by amending §2.4.2 of the LFM to require review and recommendation by the MREFC Panel of each project’s Transition to Operations Plan as part of their review of final design and again at the completion of construction.	Construction & Operations	ALTERNATE APPROACH: See 3.1 above on the CORF. Strengthened review of the transition to operations is also being handled through improved internal NSF Standard Operating Guidance on external panel reviews.
3.3	10	The MREFC Panel Charter should be brought into alignment with the LFM by specifically enumerating each of the stage-gates where MREFC Panel review and recommendation is required.	Design	COMPLETE: The MREFC Panel was reconstituted into the Facilities Readiness Panel (FRP). The charge and membership are crafted to assess project readiness (both Recipient and Program) for advancement through the Design Stage including the transition to Construction. The FRP charter and latest Major Facilities Guide (MFG; formerly the Large Facilities Manual) have been brought into alignment.

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3.4		The Deputy Director/COO should meet at least monthly with the Head of the LFO and the chairs of all active IPTs to review progress, including all earned value management tracking, on projects under design and under construction.	Construction	COMPLETE: The CORF and Head of LFO have a weekly tag-ups and dialog daily on Major Facilities issues. LFO’s bi-monthly report now goes to the CORF and includes EVM metrics.
3.5	11	The LFM can be clearer in assigning responsibility for the composition of and the authorship of external review panel charges to the LFO to ensure that the NSF Director has direct access to independent project and cost estimating expertise during the pre-design and construction phases.	Design and Construction	NOT IMPEMENTING. The LFO Liaison works jointly with the Program Officer to develop the panel charge, agenda and membership with input from the IPT. The LFO Liaison then generates an independent assessment of the review (including the cost estimate) to the Head, LFO who then evaluates as a member of the FRP. With closer NSF internal coordination, this method is now working well. Having LFO solely responsible for panel reviews would remove too much responsibility from Program and disconnect the process from the science objectives.
3.6	12	Directorates and Divisions should define their discipline-specific processes for the development stages of their large research infrastructure projects and for the general performance criteria against which facilities or suites of facilities will be evaluated during their operations phase.	Development & Operations	ALTERNATE APPROACH: The CORF is now responsible for full life-cycle oversight. The ADRs play a critical role in communicating performance of existing major facilities in conjunction with planned upgrades and future facilities still in the Development Stage. Additionally, the NSB-approved Guidelines for Facilities Management Competition Decisions Major Facilities incorporates an assessment of operational performance.
4.1	13	Although the Subcommittee does not specify any particular threshold for inclusion in the MREFC account, all relevant thresholds should be clearly documented in §1.4 or §2.7 of the LFM. All research infrastructure investments above the MREFC	Construction	COMPLETE: The current Large Facilities Manual (NSF 17-66) defines the manual’s applicability against the Total Project Cost (TPC) thresholds defined by the American Innovation and Competitiveness Act (AICA) and NSF policy on the MREFC threshold.

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		threshold, regardless of the NSF budgetary source, should follow the NSF LFM guidance and process.		
4.2	14	The Large Facilities Office, working on behalf of the Deputy Director/COO, should work with Program Staff and NSF Management to assure that the skill sets included on IPTs are matched to the risk spectrum of the project being reviewed.	Construction	COMPLETED. Standard Operating Guidance entitled “ <i>Minimum Core Competencies for Major Facilities Oversight</i> ” has been finalized and approved. This guidance covers all skills, training and certifications for key members of the IPT. NSF will reassess competencies on the IPT’s and requirements in the SOG as part of Program Management Accountability Act (PMIAA) implementation.
4.3	14	The NSF should develop a set of risk “tracks” that group projects not by size or funding source, but rather based on the Foundation’s risk exposure. These tracks should consider the risk and the size of the project, and the risk monitoring and oversight should be suitably tailored. The requirements for these alternative tracks should be added to the LFM and clearly documented.	Development	ALTERNATE APPROACH: Using project definition thresholds for “Major Facilities” and “Mid-scale Research Infrastructure” from AICA, NSF has imbedded assessment of risk as a criterion in determining the appropriate level of NSF oversight, particularly for Mid-scale projects.
4.4	14	NSF should expand its enterprise risk management in research infrastructure investments to include monitoring facility operations and productivity, as well as progress on facility upgrade investments above the recommended threshold level.	Operations	IN DEVELOPMENT: NSF’s ERM system is still in development. The CORF is now responsible for full life-cycle oversight and for bringing any risks to the attention of NSF Leadership. Regarding risks being brought to the CORF, the Head of LFO focuses on business-related risks while the Accountable Directorate Representatives (ADRs) focus on programmatic and operational risks. This process will eventually inform NSF’s broader ERM system.

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4.4.1	14	<p>The Deputy Director/COO should meet at least every six months with the Head of the LFO and the chairs of all IPTs to review performance metrics of operating large-scale research facilities. These metrics, which should be developed in consultation with the relevant research community, must reflect both the scientific productivity of the facility (e.g. number of user proposals, number of users served, publications, high-impact research results) as well its operational efficiency (e.g. beam-up time, number of operating hours vs. scheduled, etc.) for all operating large facilities.</p>	Operations	<p>ALTERNATE APPROACH: Operational performance metrics vary widely. The CORF and Head of LFO have a weekly tag-ups and dialog daily on Major Facilities issues. LFO now also produces a bi-monthly Operations Status report that goes to the CORF in concert with the bi-monthly Design and Construction report. The Ops report has a “dash board” format that identifies key issues. These reports are reviewed by the ADRs.</p>
4.4.2	14	<p>Each Large Facility should report on facility performance annually to NSF. NSF should report large facility performance to the NSB in summary form. Results from facility operational reviews should also be reported in summary form to NSF leadership and the NSB.</p>	Operations	<p>ALTERNATE APPROACH: The CORF develops a periodic summary report to the NSB. The Facilities Synopses are up-loaded to the NSB portal annually and routine oversight documents are routinely added to the portal.</p>
4.4.3	15	<p>The IPT’s purview and lifespan should be extended to the operational phase of the project with a mandate to regularly review operational performance of NSF large facilities; and the membership of the ITP should include members who have experience operating large facilities.</p>	Operations	<p>COMPLETE: Standard Operating Guidance for IPT’s has been up-dated to include the Operations Stage.</p>

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4.4.4	15	At least once every five years after the initial ten years of operations, the annual review should evaluate whether divestment should be considered for the facility. Any resulting plan developed by a Directorate or Division that proposes significantly repurposing and redirecting a facility or its decommissioning, disassembly, and disposal – any of which can involve significant expenditures of resources – to go through the MREFC Panel for review and recommendation to the Director	Operations & Divestment	IN DEVELOPMENT: Divestment considerations are imbedded in the Guidelines for Facilities Management Competition Decisions finalized in December 2017. Standard Operating Guidance is planned for development in 2019 based on these Guidelines.
4.5	16	NSF should work with the research communities, including consultation with the Directorate advisory committee, to explore and document approaches and best practices for managing facility end of life and divestment from large research facilities. NSF should develop policy and guidance for programs to support divestment consideration and decision making.	Operations & Divestment	UNDER CONSIDERATION. Directorates and Divisions have significant experience and many successes with well-considered and properly executed divestment strategies. These “best practices” could be consolidated into Standard Operating Guidance similar to the Competition SOG described in 4.4.4 above.
5.1	16	The Subcommittee believes that there should be a clearly-designated senior official in the Office of the Director with direct visibility into and accountability for the Foundation’s facilities and research infrastructure – which would encompass significant projects in the directorates as well as in the MREFC account. This official would serve a role analogous to the Acquisition Executive role in DOE and NASA	Full life-cycle	COMPLETE: The Director appointed the CORF in December 2017. The CORF advises the Director on all aspects of NSF major and mid-scale facilities throughout all life-cycle stages and collaborates with all at NSF who are involved in oversight and assistance for the NSF research facilities portfolio. The CORF chairs the Facilities Readiness Panel, the Facilities Governance Board (FGB) and the Major Facilities Working Group (MFWG).

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6.1		<p>Instead of creating a new Large Facilities FACA, NSF should utilize BOAC subcommittees as needed to periodically review the rigor of NSF’s large facilities oversight processes in a manner analogous to the role a Committee of Visitors has in providing external expert assessment of the quality and integrity of program operations and program-level technical and managerial matters pertaining to proposal decisions. BOAC, like other FACA committees, has a mechanism for creating subcommittees as necessary.</p>	Full life-cycle	<p>COMPLETE: A BOAC subcommittee was charged to undertake the “independent third-party review” of NSF’s strengthened cost surveillance procedures as agreed to by Audit Follow-Up Official. The report was delivered to NSF in December 2018.</p>
6.2		<p>To ensure that the NSF Director has full awareness of all such BOAC subcommittee assessments, NSF should re-charter BOAC so that the NSF Director, through the BFA and OIRM Heads, becomes the official to whom the committee reports as recommended by the General Services Administration’s Committee Management Secretariat guidance.</p>	Full Life-Cycle	<p>NOT IMPLEMENTING. The BOAC appropriately reports to the CFO per NSF practice on Advisory Committees. The CFO can increase OD engagement and information exchange without re-chartering the BOAC.</p>

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		Additional Considerations/Observations		
		<p><u>MREFC Review Packages</u>: The subcommittee recommends that LFM §2.3.2.6 be revised to make more explicit the responsibility of the Director’s Review Board to prepare cover memos for packages advancing to the Director and NSB that focus executive attention on cost, scope and schedule risks, mitigation options analyzed, and remediation actions taken to manage those risks.</p>		<p>COMPLETE: The role of the DRB is codified in the Proposal Award Manual (PAM) and the language in the LFM is based on the PAM since the DRB considers more than Major Facilities. The PAM has been up-dated to give more detailed guidance on the Director’s memo for Major Facilities packages and the Standard Operating Procedure for the FRP now includes a detailed document list for the NSB (which the DRB reviews) that helps focus the review on cost, scope and schedule risks, mitigation options analyzed, and remediation actions taken to manage those risks.</p>
		<p><u>MREFC Ranking Criteria</u>: The subcommittee recommends that the international leadership question be considered as one criterion for approval to enter the Conceptual Design Phase.</p>		<p>UNDER CONSIDERATION: Formal entrance to the Design Stage is considered a strategic decision to be addressed by the CORF in consultation with NSF Leadership and Senior Management.</p>
		<p><u>FACA Committees</u>: Consistent with recommendation 6.2 that NSF re-charter BOAC so that the NSF Director be the official to whom the committee reports in compliance with the General Services Administration’s Committee Management Secretariat guidance, the Subcommittee recommends that NSF consider re-chartering the advisory committees reporting to the Associate Directors as well as the two joint NSF/DOE FACAs.</p>		<p>NOT IMPLEMENTING. The BOAC appropriately reports to the CFO per NSF’s policy on Advisory Committees.</p>

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Acronyms:

ADR = Accountable Directorate Representative

CDR = Conceptual Design Review

CORF = Chief Officer for Research Facilities

PDR = Preliminary Design Review

FDR = Final Design Review

FGB = Facilities Governance Board

FRP = Facilities Readiness Panel

IPT = Integrated Project Team

LFM = Large Facilities Manual

MFG = Major Facilities Guide

MREFC = Major Research Equipment and Facilities Construction

SOG = Standard Operating Guidance

SOP = Standard Operating Procedure