NATIONAL SCIENCE FOUNDATION PROPOSAL and AWARD POLICIES AND PROCEDURES GUIDE, OMB Clearance No. 3145-0058

Part A.   Justification

1.   Background. The National Science Foundation Act of 1950 (Public Law 81-507) sets forth NSF's mission and purpose:

> "To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense...."

The Act authorized and directed NSF to initiate and support:

- basic scientific research and research fundamental to the engineering process,
- programs to strengthen scientific and engineering research potential,
- science and engineering education programs at all levels and in all the various fields of science and engineering,
- programs that provide a source of information for policy formulation, and other activities to promote these ends.

Over the years, NSF's statutory authority has been modified in a number of significant ways. In 1968, authority to support applied research was added to the Organic Act. In 1980, The Science and Engineering Equal Opportunities Act gave NSF standing authority to support activities to improve the participation of women and minorities in science and engineering. Another major change occurred in 1986, when engineering was accorded equal status with science in the Organic Act.

NSF has always dedicated itself to providing the leadership and vision needed to keep the words and ideas embedded in its mission statement fresh and up-to-date. Even in today's rapidly changing environment, NSF's core purpose resonates clearly in everything it does: promoting achievement and progress in science and engineering and enhancing the potential for research and education to contribute to the Nation. While NSF's vision of the future and the mechanisms it uses to carry out its charges has evolved significantly over the last five decades, its ultimate mission remains the same.

The *Proposal & Award Policies & Procedures Guide* (PAPPG) is comprised of documents relating to the Foundation's proposal and award process. It has been designed for use by both our customer community and NSF staff and consists of two parts:

- Part I is comprised of NSF's proposal preparation and submission guidelines -- the NSF *Grant Proposal Guide* and the NSF *Grants.gov Application Guide*. Both the Grant *Proposal Guide* (GPG) and *Grants.gov Application Guide* provide guidance for the preparation and submission of proposals to NSF, whether by the NSF Fastlane System or Grants.gov. Some NSF programs have program solicitations that modify the general provisions of these Guides, and, in such cases, the guidelines provided in the solicitation must be followed.

- Part II is comprised of the documents used to guide, manage, and monitor the award and administration of grants and cooperative agreements made by the Foundation. Coverage includes the NSF award process, from issuance and administration of an NSF award through closeout. Guidance regarding other grant requirements or considerations that either is not universally applicable or which do not follow the award cycle also is provided.

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (including a listing of Significant Changes), effective January 25, 2016 is included as **Exhibit 1** to this Supporting Statement.

2.   Use of Information.

The information collected is used to help the Foundation fulfill this responsibility by initiating and supporting merit-selected research and education projects in all the scientific and engineering disciplines. In FY 2016, NSF expects to receive more than 51,000 proposals annually for new or renewal support for research in math/science/engineering education projects and make approximately 12,000 new awards. The Foundation exercises its authority primarily by making merit-based grants and cooperative agreements and providing other forms of assistance to individual researchers and groups, in partnership with over 2,800 colleges, universities and other institutions – public and private, state, local and federal – throughout the United States. The information collected on gender, race, ethnicity or disability is used in meeting NSF needs for data to permit response to congressional and other queries into equity issues. Demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF.

The information collected on the proposal evaluation forms is used by the Foundation in applying the following criteria when awarding or declining proposals submitted to the agency: (1) intellectual merit; and (2) the broader impacts of the proposed activity.

The information collected on reviewer background questionnaires is used by managers to maintain an automated database of reviewers for the many disciplines represented by the proposals submitted to the Foundation. Information collected on gender, race, ethnicity and disability status is used in meeting NSF needs for data to permit response to congressional and other queries into equity issues. These data are also used in the design, implementation, and monitoring of NSF efforts to increase the participation of various groups in science, engineering, and education.

3.   Use of Automation.

The NSF FastLane System uses internet/web technology to facilitate the way NSF does business with the research, education, and related communities. All FastLane functions are accessed by using a web browser on the internet. FastLane modules are used for the following interactions between NSF and the science and engineering research and education community:

•   communicate the Foundation's strategic priorities to proposer and awardee communities;
•   proposal preparation & submission, including electronic signatures;
•   proposal reviews;
•   panel travel initiation;
•   panel electronic funds transfer information;
•   interactive panel system for panel meetings (including proposal ranking and submission and approval of panel summaries);
•   proposal and award status inquiries (proposal status includes release of reviews to PIs and co-PIs);
•   revised proposal budget preparation and submission;
•   supplemental funding request preparation and submission including electronic signatures;
•   access to award letters for use by PIs, Co-PIs, and Sponsored Project Offices;
•   some post award administrative notifications and requests for NSF approval;
•   organizational management; and
•   review and/or revision of organizational information.

There are 93,204 organizations registered in FastLane. In FY 2014, 62,156 competitive proposals were submitted electronically to NSF, either via FastLane or Grants.gov. Electronic submission accounts for 99.9% of all proposals submitted to NSF.

In addition, 201,889 reviews were submitted via FastLane, in FY 2014. Our users represent a diverse group of proposer and grantee organizations including major U.S universities, small colleges, community colleges and non-profit organizations. The Proposal Evaluation module in the NSF FastLane System contains the electronic format (attached and available electronically at: https://www.fldemo.nsf.gov/jsp/homepage/prop_review.jsp) used in the evaluation of proposals for the NSF. This FastLane module permits persons reviewing NSF proposals to submit ratings and comments electronically using this application. The reviewer uses a special review PIN (specific to that proposal) to access a template that can be used to "copy and paste" reviewer comments and to record other required information.

Another NSF internet/web technology is Research.gov. Research.gov is NSF's grants management system that provides easy access to research-related information and grants management services in one location. Research.gov is the modernization of FastLane, providing the next generation of grants management capabilities for the research community. Notifications and requests functions are being migrated from FastLane to Research.gov. The preparation and submission of Annual and Final Project Reports, and the Project Outcomes Report for the General Public are completed via Research.gov: NSF awardee institutions also use Research.gov to access all online financial services required for grants management.

Relationship to Grants.gov Activities.

Grants.gov provides a common Website to simplify competitive discretionary grants management and eliminate redundancies. There are 26 Federal grant-making agencies and over 1000 grant programs that award over $500 billion in grants each year. The grant community, including state, local and tribal governments, academia and research institutions, and not-for-profits, need only visit one website, Grants.gov, to access the annual grant funds available across the Federal government. Grants.gov provides a:

- single source for finding grant opportunities;
- standardized manner of locating and learning more about funding opportunities;
- single, secure and reliable source for applying for Federal grants;
- simplified grant application process with reduction of paperwork; and
- unified interface for all agencies to announce their grant opportunities, and for all grant applicants to find and apply for those opportunities.

Since the inception of Grants.gov, NSF has been an active partner in Federal-wide electronic grant efforts. NSF continues to work with representatives from Federal research agencies under the auspices of the Research and Related subcommittee, to maintain and update the SF 424 (R&R), a standardized application for use with research and research-related proposals. NSF continues this leadership role by participating in various committees of the Council on Financial Assistance Reform (COFAR).

Proposers are authorized to submit proposals to NSF via either Grants.gov or the NSF FastLane system. Until such a time, however, as Grants.gov is able to accept all types of NSF proposal formats through the Grants.gov portal, a separately cleared application format for use by NSF applicants remains necessary.

4.   Efforts to Identify Duplication.

FastLane's forms automatically pull in information about the proposing organization and Principal Investigators that is already available in the NSF database thereby reducing the need to re-enter previously provided data. NSF is expanding its efforts in this area by making use of the FastLane system to fully integrate data, where possible and appropriate. NSF is able to take advantage of FastLane's database orientation to assure that the duplication of information is kept to a minimum.

No duplication exists in the evaluation process since each proposal is evaluated on its own merits. A centralized database is maintained containing the names, background data, and reviewer history of all individuals evaluating proposals for NSF. It also contains the names of potential reviewers. This database can be accessed, and new reviewers added, by any program officer needing reviewers. Program officers cannot remove names from the database once they have been asked to review a proposal. The names and related information about reviewers are maintained in the system indefinitely to account for disclosures under the Privacy Act and to fulfill NSF's policy on releasing the names of all individuals who have reviewed proposals.

5.   Small Business Considerations.

Proposals from small businesses are solicited in accordance with the NSF Act of 1950, as amended, the Small Business Innovation Development Act of 1982, as amended and Public Law 112-81 (SBIR/STTR Reauthorization Act of 2011), which has been authorized until September 30, 2017. Small businesses are expected to submit proposals in accordance with NSF guidelines governing that particular program. These guidelines contain NSF standard proposal formats, with the addition of specific information required by Federal regulations.

6.   Consequences of Less Frequent Collection.

Proposers may submit as many proposals as they deem appropriate. Since each proposal is evaluated on its own merits by selected reviewers, proposers are required to furnish separate proposals; each developed in accordance with standardized electronic formats.

Most continuation proposals do not require external review. The reviews submitted at the time of the initial proposal submission, along with annual project performance reports are used as the basis for making awards. The major part of the review process consists of the review of new proposals submitted to the agency. No information is available for new proposals.

7.   Collection Inconsistent with Guidelines in 5 CFR 1320.6.

Evaluators of NSF proposals are given a pledge of confidentiality that their names will not be released in connection with their comments (see paragraph "10" below).

8.   Federal Register Notice.

Public Notice was published in the Federal Register, May 19, 2015, at 80 FR 28713.

A summary of the comments received in response to NSF's request for public comment is as follows:

•   56 responses were received from 12 different organizations/institutions/individuals;
•   33 responses were in response to the Grant Proposal Guide;
•   23 responses were in response to the Award & Administration Guide; and

Exhibit 2 contains the full text of the comments received in response to the Federal Register Notice and the associated NSF response.

Outside Consultation.

The process for announcing the availability of support and the process for receiving proposals and making awards has been developed over the course of the Foundation's history, with assistance from many external sources. These sources include other Federal agencies as well as from proposing organizations.   The Foundation also has participated in the Federal Demonstration Partnership (FDP) since its inception. The Federal Demonstration Partnership is

a cooperative initiative among ten federal agencies and over 150 institutional recipients of federal funds; its purpose is to reduce the administrative burdens associated with research grants and contracts. The interaction between FDP's 300 or so university and federal members takes place in FDP's 3 annual meetings and, more extensively, in the many collaborative working groups and task forces that meet often by conference calls in order to develop specific work products. The FDP is a unique forum for individuals from universities and nonprofits to work collaboratively with federal agency officials to improve the national research enterprise. At its regular meetings, FDP members hold spirited, frank discussions, identify problems, and develop action plans for change. Then these new ways of doing business are tested in the real world before putting them into effect. Since its inception, the FDP has served as an important mechanism to solicit input and suggestions for improving the NSF proposal and award process.

Additionally, a large percentage of NSF program officers, who are responsible for making funding recommendations, are from the research community. These individuals are well aware of the burden associated with the submission of a competitive proposal to NSF and have provided significant input on how the process can be streamlined and improved.

9.   Gifts or Remuneration. Not applicable.

10./11. Confidentiality/Sensitive Questions.

The Foundation is committed to monitor and identify any real or apparent inequities based on gender, race, ethnicity, or handicap of the proposed principal investigator(s)/project director(s) or the co-principal investigator(s)/co-project director(s). Although submission of these data is voluntary, we strongly urge all proposers to provide it so that the quality of the database can be improved. NSF retains these as an integral part of its Privacy Act Record System, NSF 50, "Principal Investigator/Proposal File and Associated Records." The information is not released to proposal reviewers. Information from this format will be made available only to a person conducting official business for NSF and will be treated as confidential to the extent permitted by law.

Information concerning the reviewers/panelists is maintained in accordance with the requirement of the Privacy Act of 1974 (NSF System of Records, NSF-51, "Reviewer/Proposal File"). Information from this "System of Records" may be released to other government agencies seeking reviewers.

Verbatim but anonymous copies of reviews are sent to principal investigators/project directors. Subject to this NSF policy and applicable laws, including the Freedom of Information Act, reviewers' identities will be given maximum protection from disclosure.
While listings of panelists' names are released, the names of individual reviewers, associated with individual proposals, are not released.

The Foundation also collects gender, race, ethnicity and disability data from PIs/PDs identified on the proposal. This demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same

knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF.

12. **Burden on the Public.**

It has been estimated that the public expends an average of approximately 120 burden hours for each proposal submitted. Since the Foundation expects to receive approximately 51,700 proposals in FY 2016, an estimated 6,204,000 burden hours will be placed on the public.

The Foundation has based its reporting burden on the review of approximately 51,700 new proposals expected during FY 2016. It has been estimated that anywhere from one hour to 20 hours may be required to review a proposal. We have estimated that approximately 5 hours are required to review an average proposal. Each proposal receives an average of 3 reviews, resulting in approximately 775,500 burden hours each year.

The information collected on the reviewer background questionnaire (NSF 428A) is used by managers to maintain an automated database of reviewers for the many disciplines represented by the proposals submitted to the Foundation. Information collected on gender, race, and ethnicity is used in meeting NSF needs for data to permit response to Congressional and other queries into equity issues. These data also are used in the design, implementation, and monitoring of NSF efforts to increase the participation of various groups in science, engineering, and education. The estimated burden for the Reviewer Background Information (NSF 428A) is estimated at 5 minutes per respondent with up to 10,000 potential new reviewers for a total of 833 hours.

The aggregate number of burden hours is estimated to be 6,980,333. The actual burden on respondents has not changed.

13. **Annualized Cost to Respondents**.

There is no cost to respondents reviewing proposals electronically or by mail. Those respondents who review proposals by panel are reimbursed for their expenses.

14. **Annualized Cost to the Federal Government.** The cost estimate for development of the new NSF *Proposal & Award Policies & Procedures Guide*, which we anticipate will be issued in October 2015, is $118,183. The main method of accessing and printing this new Guide will continue to be via download from the NSF website. The Foundation will print a limited number of copies at our in-house printing facility at a cost of $628. The following supporting documentation is the basis used to develop the estimate of the cost to gather information, develop, coordinate and review the Guide. Individuals and/or offices instrumental in this process were polled to determine the staff estimates used. In FY 2014, NSF expended approximately $20,059,246 for panel-related costs. This amount indicates travel costs and reimbursements for expenses for panelists.

Office of Budget, Finance & Award Management (BFA)

Policy Head   2.5 months x AD-5 = $33,354
Senior Policy Specialist   1 month x GS-14 = $10,285
Policy Specialist   1.5 months x GS-13 = $13,056
2 Policy Specialists   2 weeks x GS-14 (avg.) = $10,284
Policy Office IPA   2 weeks x GS-13 (avg.) = $4,352
Cost Analysis & Audit Resolution (CAAR) Branch Chief   1 week x GS-15 = $3,011
CAAR Team Lead   1 week x GS-15 = $3,011
Division of Financial Management (DFM) Branch Chief   1 week x GS-15 = $3,011
Other BFA staff   2 weeks x GS-14 (avg.) = $5,142

Office of the General Counsel (OGC)

Assistant General Counsel   3 days x Executive Level 4 = $2,091
Assistant General Counsel   1 day x Executive Level 4 = $697
Legal Analyst   3 days x GS-14 (avg.) = $1,542

Division of Administrative Services (DAS)

DAS Staff   2 days x GS-12 (avg.) = $732

Division of Information Systems (DIS)

Division Director   1 day x Executive Level 3 = $701
Branch Chief   3 days x GS-15 (avg.) = $1,806
Computer Specialists 2 days x GS-14 (avg.) = $1,028

Other NSF Staff Offices

40 people at 1 day each x GS-15 (avg.) = $24,080

Total Salaries: $118,183

Estimated printing costs

.014 per black and white page x 173 pages = $2.42

$2.42 x 200 copies = $484

$0.12 cost per color page x 6 colored pages = $0.72

$0.72 total cost for color x 200 copies = $144

Total cost of printing: $628

15. **Changes in Burden**.

Since the burden hours reported are based on the number of proposals expected in any given year, this estimate is considered to be uncontrollable. The burden is expected to increase proportionately for both the proposal and review processes as the receipt of proposals increases.

16. **Publication of Collection.** Not applicable.

17. **OMB Expiration Date**. Not applicable.

18. **Exceptions for Certifications**. Not applicable.

B. STATISTICAL METHODS. Not applicable.

DATA COLLECTION INSTRUMENT, INCLUDING CORRESPONDING INSTRUCTIONS

See Exhibit 1

ATTACHMENTS:

National Science Foundation Act of 1950 (Public Law 81-507)
NSF Form 1
NSF Form 428 A

EXHIBITS:

Exhibit 1:   Revised version of the *NSF Proposal and Award Policies and Procedures Guide*, Effective January 25, 2016
Exhibit 2:   Public Comments Received along with associated NSF response.