

Supporting Statement for Paperwork Reduction Submission

Grantee Reporting Requirements for Partnership for Research and Education in Materials (PREM) (3145-0232)

A. Justification

A.1. Circumstances Requiring the Collection of Data

The NSF Partnership for Research and Education in Materials (PREM) program provides significant support (~ 0.635 million / year) for research, education, and infrastructure with a renewable term of 6 years, for a total investment of ~ \$3.8M. Because of the duration and size of these awards, it is necessary for the NSF to ensure that its substantial investment is spent appropriately, that each of the PREMs meets the goals stated in its strategic plan, and that each PREM's activities satisfy the goals and objectives of the PREM program. The PREM program currently funds a total of 32 active awards—4 were funded in FY15, 10 (including 2 Seed Funds) in FY18, and 18 (including 10 Seed Funds) in FY21. For effective oversight of these substantial investments, the NSF requires that each currently funded PREM submit an annual progress report that describes all its activities. Each PREM is expected to submit a final report at the end of the award. Data contained in these reports are also submitted to a website managed by a contractor for NSF. Electronic submission facilitates program-wide data analysis.

The annual and final reports contain information to help answer broad evaluation questions:

1) What is the overall value-added of the NSF PREM program?; 2) What is the quality and impact of the research conducted in the PREMs?; 3) What is the quality and impact of education supported by the PREMs?; 4) What is the quality and impact of the knowledge transfer of the PREMs?; 5) Do the PREMs effectively encourage the participation of US

citizens, underrepresented minorities, women, and persons with disabilities in their activities?; and 6) Do the PREMs create and sustain organizational connections and linkages within and among academia, government, and industry?

The annual progress reports will be used to:

- **Evaluate annual progress of a PREM.** The primary purpose of the annual reports is to provide the information needed for the NSF to monitor and evaluate the progress and accomplishments of individual PREMs, as well as to identify any problems. The annual reports provide background information for site visit reviews/evaluations of each of the PREMs that are conducted by teams of external reviewers and the NSF staff. The site visit review/evaluation provides feedback to the PREM and the NSF about its strengths and weaknesses. In cases of significant weaknesses, a PREM is provided advice and a schedule for addressing any weaknesses.
- **Develop internal performance indicators and controls for a PREM.** The annual reports provide information that is used by the leadership of each PREM to create and monitor metrics or performance indicators in the management of their PREMs.
- **Make funding decisions.** The PREMs funds are released to each PREM on an annual basis. The NSF staff uses each PREM's annual report together with the written input from the external reviewers responsible for the site visit review/evaluation of a PREM to make decisions on the continuation and funding level for the PREM.
- **Evaluate overall effectiveness of the PREM program.** NSF uses the aggregate reports from all PREMs in evaluating the effectiveness of the PREM program on an ongoing basis.

A.2. Purpose and Use of Data

The reports will be used for:

- **External Reviewer Site Visits.** NSF convenes external site visit teams (one for each PREM) on a regular basis to evaluate the individual PREMs. NSF program staff selects the external site visit team for a PREM. Typically, a site visit team will have 1-3 members that have scientific, educational and management expertise appropriate to the specific PREM's activities; site visits also include the PREM Program Director. The teams use the information in the annual reports to assist in the on-site evaluation of each PREM's progress relative to its stated goals and objectives and to its performance during the previous year. After reviewing the annual progress report, the site visitors spend time at the PREM's site (typically 1.5 days) in discussion with the PREM's researchers, educators, staff and students to evaluate the PREM's progress. The external site visit team provides a written summary of the strengths and weaknesses of the PREM's progress and submits its report to the PREM and to the NSF.
- **NSF Staff Evaluation of PREM's Progress and Funding Decision for Following Year.** Each PREM is monitored by the PREM Program Director, in consultation with other DMR staff as appropriate. The NSF staff monitors PREM activities, in part through data recorded in the annual reports, and makes decisions about external reviewers and PREM funding.

A.3. Use of Automation

All reports are submitted electronically via Research.gov.

A.4. Efforts to Identify Duplication

No other federal agencies or organization within NSF collects the same data submitted in annual and final PREM reports.

A.5. Small Business Consideration

N/A

A. 6. Consequences of Less Frequent Collection

The reports generated by the annual data collection are one of the primary mechanisms used by the NSF for approving funding for the PREMs on an annual basis. Less frequent data collection would preclude NSF's annual monitoring and documentation of the progress of each PREM and, thus, would not allow for informed decisions about funding and timely correction of any weaknesses identified in a PREM's activities. Less frequent data collection would reduce the effectiveness of continuously monitoring the large investments of resources and time that NSF has committed to the PREM Program. Furthermore, the annual data collection matches the academic year planning of the PREMs, increasing the likelihood that the improvements to PREM activities will be made quickly. Less frequent data collection would increase the burden on the individual PREM's management by splitting two reporting responsibilities (1) to collect and aggregate data annually for internal management and (2) to collect and report data for efforts associated with program level monitoring and documentation.

A.7. Special Circumstances for Collection

N/A

A. 8. Federal Register Notice and Outside Consultation

The agency's notice, as required by 5 CFR 1320.8(d), was published in the *Federal Register* on March 2, 2022, at 87 FR 11739, and no comments were received.

In addition, the reporting requirements and estimates on the hourly burden were discussed with the management of the PREMs. PREM Directors and their management staff, the primary respondents to this data collection, were consulted for feedback on the availability of data, frequency of data collection, the clarity of instructions, and the data elements. Their feedback confirmed that the frequency of data collection was appropriate and that they did not provide these data in other data collections.

A. 9. Gifts or Remuneration

N/A

A.10. Assurance of Confidentiality

Because data are collected at the PREM level, individual respondents are not identified. PREMs frequently make significant sections of their annual reports publicly available.

A. 11. Questions of a Sensitive Nature

No questions of a sensitive nature are used. Only questions pertaining to the progress of the PREM, as stated by the program announcement, are used.

A. 12. Estimate of Burden

This request pertains to the 32 PREMs that are currently funded. Each PREM will be required to submit an annual or final report; thus, the total number of reports will be 32 per year (with some small variation as old PREMs are closed and new ones are funded). Based on comparison with other NSF programs and estimates from several PREM directors, we estimated the average burden of preparing annual and final reports, in terms of person-hours per PREM, as given in the following table:

Expense category	\$/hr	Hours	Cost
1. PREM Director	\$120	25	\$3000
2. PREM Administrator	\$90	10	\$900
3. Research Thrust Leaders	\$50	13	\$650
4. Other admin	\$34	2	\$68
5. Fringe benefits			\$1169
6. Overhead costs			\$2726
Total cost per PREM			\$8513

Total hours per PREM are estimated to be on average approximately 50 hours; Total number of hours for 32 PREMs: **approximately 1,600 hours.**

ANNUALIZED COST TO RESPONDENTS

Estimated average cost per PREM to prepare annual and final report, based on a comparison with reporting costs from other NSF programs of comparable scale and reporting requirements, and estimates from several PREM directors, is provided in the above table.

A. 13. Annual cost burden [not included in hour cost]

There are no additional costs beyond the estimated hours of burden shown above. The average annual funding rate for each PREM award is ~\$0.575M (taking into account all the 32 PREMs, including the 12 with Seed Funds). Therefore, the annual burden of preparing annual and final reports is slightly less than 1.5% of funds provided.

A. 14. Annualized Cost to the Federal Government

The reports submitted by the PREMs will be analyzed by the NSF staff for the purpose of providing PREM profile documents, various types of data analysis, and tables for the purpose of overall program management. An outside contractor will be used to provide automated data entry and collection from a web page for some of the statistical information. The following estimates of the anticipated effort are based on pilot trials of analyzing report data.

The estimate of their activities and role are as follows:

Expense category	Unit cost	Units	Total cost
Program Officer	\$80/hour	16 hours/PREM	\$1280
Contractor (software used by all PREM reports)	\$20/hour	0 hours	\$0
Total cost per PREM			\$1280
Total cost for 32 PREMs			\$40,960

A. 15. Changes in Burden

The number of awards to institutions hosting PREM increased from fifteen to 32. (This includes twelve PREMs which are provided Seed Funding at a reduced level compared to typical PREM awards.) While the overall burden hours increased, the burden time per institution did not change.

A. 16 Publication of Collection

N/A

A. 17 Approval to Not Display OMB Expiration Date

N/A

A. 18 Exception to Item 19 of OMB Form 83-I Certification Statement

N/A

B. STATISTICAL METHODS

Not applicable

Attachments

Attachment I. Detailed description of information required in annual reports

Attachment II. Detailed description of information required in final reports