Supporting Statement for Paperwork Reduction Submission

Grantee Reporting Requirements for Nanoscale Science and Engineering Centers (NSECs) (XXX-XXX)

A. Justification

A.1. Circumstances Requiring the Collection of Data

The NSF Nanoscale Science and Engineering Center (NSEC) program provides significant

support ($1 – $4 million / year) for research, education, and infrastructure through

cooperative agreements over a maximum of 10 years. 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 centers meets the goals stated in its own strategic plan, and

that each center's activities satisfy the goals and objectives of the NSEC program. The

NSEC program currently funds a total of 13 Centers—2 beginning in 2003, 6 beginning in

2004, 2 beginning in 2005, 1 beginning in 2006, and 2 beginning in 2008. To enable

effective oversight of its investment, the NSF requires that each currently funded Center must

submit an annual project report that describes all activities of the Center; each existing

Center, in accordance with Foundation-wide requirements, began submitting an annual report

in its first year of operation. Each Center also 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 that contributes to NSF's efforts to answer

broad evaluative research questions: 1) What is the overall value-added of the NSF NSEC

program? 2) What is the quality and impact of the research conducted in the Centers? 3)

What is the quality and impact of education supported by the Centers? 4) What is the quality

and impact of the knowledge transfer of the Centers? 5) Do the Centers effectively encourage the participation of U.S. citizens, underrepresented minorities, women, and persons with disabilities in their activities? 6) Do the Centers create and sustain organizational connections and linkages within and among academia, government, and industry?

Each annual project report will be used to:

- **Evaluate annual progress of a Center**. The primary purpose of the annual report is to provide the information necessary for the NSF to monitor and evaluate the progress and accomplishments, as well as, to identify problems of an individual NSEC. The annual report provides background information for site visit reviews/evaluations of each of the Centers that are conducted by teams of external reviewers and the NSF staff.   The site visit review/evaluation provides feedback to the NSF and the Center about its strengths and weaknesses. In cases of significant weaknesses a Center is provided advice and a time schedule for addressing any weaknesses.

- **Develop internal performance indicators and controls for a center**. The annual report provides information that is used by the leadership of each NSEC to create and monitor metrics or performance indicators in the management of their center.

- **Make funding decisions**. The NSECs are funded under cooperative agreements, and funds are allocated to each Center on an annual basis. The NSF staff uses each Center's annual report together with the written input from the external reviewers responsible for the site visit review/evaluation of a Center to make decisions on the continuation and level of funding for the Center.

- **Evaluate overall effectiveness of the NSEC program**. The aggregate reports from all NSECs are used by NSF in evaluating the effectiveness of the NSEC Program on an ongoing basis.

A.2. Purpose and Use of Data

NSEC-specific reporting guidelines are needed to provide uniform reporting structure covering the required center components, which include the strategic plan, multiple research thrusts, education, diversity strategic plan, working with industry, national labs and international partners, shared experimental facilities. NSECs are expected to provide both a review of past accomplishments and future plans. Pre-defined data tables provide uniform data collection across the centers. The reports will be used in the:

- **External Reviewer Site Visits.** External site visit teams (one for each center) are convened by the NSF on a regular basis to evaluate the individual NSECs. The external site visit team for a Center is selected by NSF program staff. Typically a site visit team will have 4-7 members who have scientific, educational and management expertise that corresponds to the specific Center's activities. The teams use the information in the annual reports to assist in the on-site evaluation of each NSEC's progress relative to its stated goals and objectives and to its performance during the previous year. Upon reading the annual progress report, the site visitors spend time at the Center's site in discussion with the Center's researchers, educators, staff and students the Center's progress. The external site visit team summarizes in writing strengths and weaknesses of the Center's progress and submits its report to the Center and to the NSF.

- **NSF Staff Evaluation of Center's Progress and Funding Decision for Following Year.** The NSF staff overseeing each NSEC consists of program officers who co-fund a given award. The NSF staff jointly monitors center activities, in part through

data recorded in the annual reports, and make decisions about external reviewers and center funding.

- **Development of Aggregate Reports for Overall NSEC Program Management.**
  The effectiveness of the NSEC program is reviewed periodically by the NSF NSEC Coordinator and Senior Advisor for Nanotechnology. For the purpose of generating the aggregated information, NSF staff or a contractor utilize data mining tools to review the reports on an annual basis and extracts relevant information from them, producing aggregate reports that provide for easy program monitoring.

A.3. Use of Automation

All reports are submitted electronically via e-mail to the cognizant program officer.

A.4. Efforts to Identify Duplication

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

A.5. Small Business Consideration

N/A

A. 6. Consequences of Less Frequent Collection

The reports generated by the annual data collection comprise one of the primary mechanisms used by the NSF for approving funding for the NSECs on an annual basis. Less frequent data collection would preclude NSF's annual monitoring and documentation of the progress of each NSEC and, thus, would not allow for informed decisions about funding and timely

correction of any weaknesses identified in a Center's activities. The consequence of less frequent collection would manifest itself in the lack of an effective way to continuously monitor the large investments of resources and time that NSF has committed to the Nanoscale Science and Engineering Centers Program. Furthermore, the annual data collection is congruent with the annual cycle of academic institutions in which these Centers reside increasing the likelihood that the improvements to Center activities will be made. Less frequent data collection would provide a greater burden on the individual Centers' management that would have 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 April 17, 2013, at 78-FR 22917. One comment from the Council on Governmental Relations (COGR) was received. They raised a general concern that additional reporting requirements presented added burden on their members. Given the general nature of this comment, no further response was required.

The reporting requirements and estimates on the hourly burden were discussed with the management of the Nanoscale Science and Engineering Centers. Center 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

The contents of annual reports submitted to NSF will not be made public. Centers may make sections of their annual reports publicly available through their websites.

A. 11. Questions of a Sensitive Nature

No questions of a sensitive nature are used.

A. 12. Estimate of Burden

This request pertains to the 13 Centers that have received awards as of fiscal year 2003; two of these centers that started in 2003 will submit their final annual report within the next 12 months. An additional 8 centers started in 2004 and 2005 will submit their final report in the next three years.

Each center will be required to submit an annual or final report; thus, the total number of reports will range from 13 to 3 per year. Based on a poll of three of the NSECs, we estimate the average burden of preparing annual and final reports, in terms of man-hours per Center, as given in the following table:

Expense category	$/hr	hours	Cost
1. Center Director	$121.1	33.3	$4,038.22
2. Deputy Director/Center's Administrator	$45.8	106.7	$4,887.79
3. Thrust Leaders	$50.2	98.3	$4,932.27
4. Education Director	$32.9	25.0	$822.70
5. Other admin	$33.7	46.7	$1,573.60
6. Students graduate/undergraduate	$14.0	40.0	$560.00
7. Fringe benefits			$5,190.5
8. Overhead costs			$11,615.6
Total cost per Center			$33,620.7

Total hours per center are estimated to be on average approximately 350 hours; Total number of hours for 13 centers: **approximately 4,550 hours.**

ANNUALIZED COST TO RESPONDENTS

Estimated average cost per Center to prepare annual and final report, based on a survey of three of the NSECs, 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 the three NSEC polled is $3.77M. The annual burden of preparing annual and final reports is < 1% of funds provided.

A. 14. Annualized Cost to the Federal Government

The reports submitted by the NSECs will be analyzed by the NSF staff and an outside contractor using the latest data mining tools for the purpose of providing Center profile documents, various types of data analysis, and tables for the purpose of overall program management. 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	12 hours/Center	$960
Contractor	$20/hour	16 hours/Center	$320
Total cost per Center			**$1,280**
Total cost for 13 centers			*$16,640*

A. 15. Changes in Burden

Not applicable; this is a new request

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