Supporting Statement (3145-0136)

REQUEST FOR RENEWAL OF EHR GENERIC CLEARANCE

Forms Clearance Package
Submitted by:

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Section A

Introduction

The National Science Foundation (NSF) funds basic research in fields of science and engineering as well as research on education and learning in those fields at all educational levels. NSF supplies grants, contracts, and cooperative agreements to more than 2,000 colleges, universities, and other eligible institutions, and provides graduate fellowships to individuals in all parts of the United States.[1]

NSF provides nearly 20 percent of Federal funding for basic research to academic institutions.[2] Within NSF, the Directorate for Education and Human Resources (EHR) holds primary responsibility for promoting rigor and vitality within the Nation's science, technology, engineering, and mathematics (STEM) education enterprise to further the development of the 21st century's STEM workforce and public scientific literacy. In order to support the development of a diverse and well-prepared workforce of scientists, technicians, engineers, mathematicians, and educators and a well-informed citizenry that has access to the tools of science and engineering, EHR's mission includes identifying means and methods to promote excellence in U.S. STEM education at all levels and in all settings (both formal and informal). To these ends, EHR provides support for research and implementation activities that may improve STEM learning and education from pre-school through postdoctoral studies, in traditional and non-traditional venues, among all United States citizens, permanent residents, and nationals. EHR also focuses on broadening participation in STEM learning and careers, particularly among those individuals traditionally underemployed in the STEM research workforce, including but not limited to, women, persons with disabilities, and racial and ethnic minorities.

This request for Office of Management and Budget (OMB) review asks for a regular or standard three-year renewal for the EHR Generic Clearance OMB Control Number 3145-0136 that expires on March 31, 2011.

Data collected under the EHR Generic Clearance are primarily used for program planning, management, and audit purposes, and to respond to queries from the Congress, the public, NSF's external merit reviewers who serve as advisors, including Committees of Visitors (COVs), and the NSF's Office of the Inspector General. These data are required for effective administration, communication, program and project monitoring and evaluation, and for measuring attainment of NSF's program, project, and strategic goals, as identified by the President's Accountable Government Initiative, the Government Performance and Results Act (GPRA) Modernization Act of 2010, and the NSF's Strategic Plan.

The EHR Generic Clearance relates to information collected under the NSF's Grant Proposal Guide (GPG) OMB Control Number 3145-0058. Data gathered via OMB 3145-0058 are housed in NSF's main administrative database called the Proposal and Award System (PARS). Most of the information in the EHR Generic Clearance, however, originates from specialized, custom collections. These individual collections (see attachments A through J) are designed to assist in management of specific programs, divisions, or multi-agency initiatives.

Most programs subject to EHR Generic data collection are funded by the EHR Directorate, but some are funded in whole or in part by disciplinary directorates or multi-disciplinary or cross-cutting programs. There are currently 11 previously approved collections under the existing clearance that will expire in March 2011. Two of these collections will end upon the March 2011 expiration, one collection has been split into two, one has been removed to be submitted under a separate clearance, and one new task has been added. Therefore, this request asks for clearance of ten tasks.

[1] National Science Foundation. (2010). *How we work*. Retrieved from http://www.nsf.gov/about/how.jsp

[2] National Science Foundation. (2010). *NSF at a glance*. Retrieved from http://www.nsf.gov/about/glance.jsp

A.1. Circumstances Requiring the Collection of Data

The NSF Directorate of Education and Human Resources is responsible for collecting, analyzing, evaluating, and communicating information on STEM education and human resource development activities, and for coordinating analytical and policy support for all of NSF's Education and Training (E&T) portfolio.

History of the EHR Generic Clearance
In 1995, at the request of OMB and in response to the Government Performance and Results Act of 1993, an EHR Generic Clearance was established to integrate management, monitoring, and evaluation information pertaining to the NSF's E&T portfolio. Under this generic survey clearance (OMB 3145-0136), data from the NSF administrative databases are incorporated with findings gathered through initiative-specific, division-specific, and program-specific data collections. EHR uses these data for

monitoring, managing, and communicating about NSF's investment in E&T programs, initiatives, and activities.

When the EHR Generic was first cleared in 1998, the Terms of Clearance (TOC) specified how individual packages would be handled. Those terms stated that "All . . . individual tasks associated with this generic . . . must be submitted to OMB for clearance prior to implementation. If approved those individual approvals will expire, at the latest, when this generic expires in 9/2001 . . . When NSF seeks to add additional tasks to 3145-0136 other than those previously mentioned, the additional request will be accompanied by an 83-C burden change sheet so that the appropriate burden total for the generic clearance can be changed accordingly. Further, each additional request shall contain a cover memo which describes why the specific task is appropriate to include in the generic. Consistent with past procedures under this generic clearance, submission of individual tasks are done informally (i.e., sent directly to the desk officer rather than to the docket library) and OMB will attempt to complete the review expeditiously."

The 2001 TOC further prescribed a "cross-walk that was provided by NSF on 11/6" and specifies that the cover memos submitted with new requests "should contain a similar crosswalk that details how the new questions fit into the three categories given." In addition, the 2001 TOC stated that "NSF has agreed to consider this clearance to encompass only 'monitoring' surveys, and no program evaluations will be completed under this generic clearance. Evaluations will need to go through a full clearance review under the Paperwork Reduction Act (PRA). All monitoring studies must conform to the three-category configuration explained in the memo of 10/24." In accordance with the 2001, 2005, and 2008 TOC, NSF primarily uses the data from the EHR Generic Clearance for program planning, management, and audit purposes, and evaluation studies are submitted to OMB under separate information collection requests.

Circumstances of Data Collection
To fulfill its planning and management responsibilities, and to answer queries from Congress, OMB, and NSF management, EHR needs current and reliable information about projects in NSF's E&T portfolio. This information is specifically important to support studies and evaluations by EHR, and studies by other NSF organizational units for project monitoring and effective administration. The information is retained in accordance with the Education and Training System of Records (63 Fed. Reg. 264, 272 January 5, 1998). The Education and Training System of Records has several purposes, including:

- Providing a source of information on demographic and educational characteristics and employment plans of participants in NSF-funded educational projects, in compliance with Foundation responsibilities to monitor scientific and technical resources enabling NSF to monitor the effectiveness of NSF-sponsored projects and identify outputs of projects funded under NSF awards for management and for reporting to the Administration and Congress, especially under the GPRA Modernization Act of 2010, 5 U.S.C. 306 and 39 U.S.C. 2801-2805, and under the President's Accountable Government Initiative, and Performance Improvement Guidance as represented by

OMB's guidance to agencies (M10-24 Memorandum for Executive Departments and Agencies, Shelly Metzenbaum, June 25, 2010, "Performance Improvement Guidance: Management Responsibilities and Government Performance and Results Act Documents")

- Creating public use files (which contain no personally identifiable information) for research purposes

The EHR Generic Clearance and the Education and Training System of Records enable NSF staff members and third-party evaluators to collect and combine data from:

- Surveys (paper, electronic (i.e., Web-based), and telephone)
- Observations (i.e., site visits)
- Face-to-face interviews
- Focus groups

OMB 3145-0136 is focused on initiative-specific, division-specific, and program-specific quantitative and qualitative data collection activities. Data from these collections focus on activities and outputs (i.e., the accomplishments of program grantees (projects) in terms of specific objectives). These descriptive data collections provide essential information for assessing progress toward NSF's major performance goals, as described in NSF's Strategic Plan. (The Foundation's FY 2011-2016 Strategic Plan describes three strategic goals: *Transform the Frontiers, Innovate for Society, and Perform as a Model Organization*. See here for the complete strategic plan.)

In addition to the requirements of the NSF Strategic Plan, the President's Accountable Government Initiative, and GPRA reporting, some collections under this Generic have statutory requirements for data collection for monitoring and reporting purposes. For example, the public law authorizing the Robert Noyce Teacher Scholarship (Noyce) program (attachment F), requires award recipients to provide monitoring information to the NSF: "An institution of higher education (or consortium thereof) receiving a grant under this section shall, as a condition of participating in the program, enter into an agreement with the Director to monitor the compliance of scholarship and stipend recipients with their respective service requirements." The Noyce program solicitation states: "…In addition to the project-specific evaluation, all projects will be expected to cooperate with an NSF third-party monitoring and evaluation of program impact that will require annual data collection." See individual task attachments for more information.

A renewal of the EHR Generic Clearance that allows continued collection of these data is requested. Many of the data collection instruments have similar structures, and while they seek information about different activities, they are often designed to collect information to allow for monitoring and comparison across activities. In accordance with OMB's 2001 TOC, all EHR Generic Clearance data elements fall into one of three categories:

- Staff and participant characteristics (data that are also necessary to determine individual-level treatment and control groups for future third-party study);
- Project implementation characteristics (also necessary for future use to identify well-matched comparison groups); and

- Project outputs (necessary to measure baseline for pre- and post-NSF-funding-level impacts)

A crosswalk comparing the data collected across the task collections can be found in appendix C.

A.2. Purposes and Uses of the Data

The information collected under the EHR Generic Clearance is required for effective administration, communication, and program and project monitoring, and for measuring attainment of NSF's program, project, and strategic goals as laid out in NSF's Strategic Plan. This section will describe how the data collected under OMB 3145-0136 will be used for internal program management and administration; as a data source for NSF's performance assessment activities, including COVs and Directorate and Office Advisory Committees (ACs); for measuring the attainment of NSF's program, project, and strategic goals in accordance with the President's Accountable Government Initiative and GPRA reporting; and as a foundation for the rigorous research required to evaluate the effectiveness of STEM education programs. For more general information about NSF's performance assessment activities see here.

Program Management and Administration
One of the primary uses of data from the EHR Generic Clearance is for the general monitoring of project and program activities by EHR staff. Because EHR has a limited number of staff members who must monitor hundreds of projects, large-scale data collection is the only way by which these program officers can hope to track project activities. The monitoring systems that fall under OMB 3145-0136 allow program officers and other NSF staff to integrate pre-existing data and newly generated data in a coherent and timely manner, giving them information needed to make adjustments to the program portfolio. For example, NSF decided to sunset the Collaboratives for Excellence in Teacher Preparation (CETP) program and no money was requested by NSF to support new CETP projects. Information from the EHR Generic collection regarding the CETP program's activities had a significant influence on the decision not to renew the CETP monitoring task in 2008. While most of the uses are not as dramatic as eliminating a program, they are significant to the normal operation of the EHR Directorate and to the individual projects outside the Foundation. This kind of monitoring can lead to corrections by respondents to their project activities, may facilitate changes in program guidelines and/or NSF funding levels to a particular project, and may result in improved benefits to participants in NSF projects.

In recent guidance from the Director of OMB, M-10-32, the need for rigorous evaluations and the objectives of evaluations of programs were clearly outlined, including the use of evaluation resources. Because the collection of data contained in these monitoring efforts contributes to the formal evaluation of programs and provides regular measures of program performance by accumulating operating information from each project in the programs included in this request, this guidance is particularly pertinent to this request.

"**Improving and coordinating the use of existing evaluation resources.** In addition to the voluntary evaluation initiative, agencies should continue to carefully assess, report on, and allocate the base funds and resources that the agencies have for conducting evaluation. Agencies are encouraged to share information beyond what is requested in guidance and consult with OMB's Resource Management Offices (RMOs) to coordinate and improve the design, implementation, and utilization of evaluations."

These directives establish an ongoing need for NSF to engage in an interactive process of collecting information and using it to improve program services and processes.

Data for NSF's Performance Assessments, including COVs and ACs
Data from the monitoring systems play a key role in NSF's performance assessment activities, and feed into the larger NSF evaluation model. NSF relies on the judgment of external experts to maintain high standards of program management and to provide advice for continuous improvement of NSF performance. Directorate and Office advisory committees meet twice a year, while COVs for divisions or programs meet once every three years. COV reviews provide NSF with external expert judgments in two areas: (1) assessments of the quality and integrity of program operations and program-level technical and managerial matters pertaining to proposal decisions; and (2) comments on how the results generated by awardees have contributed to the attainment of NSF's mission and strategic outcome goals. Data collected in the monitoring systems are often used in these reviews. For example, the March 2009 Noyce program COV and the December 2009 Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP) COV, materials included summary data about the programs that had been collected via the Noyce and STEP monitoring systems (attachments F and H). COV reports are available [here](#).

GPRA Reporting
Another central use of the EHR Generic Clearance data is to measure attainment of NSF's program, project, and strategic goals and to report on the attainment of these goals. NSF's performance assessment is guided by three elements: the GPRA Modernization Act of 2010, the President's Accountable Government Initiative, and NSF's Strategic Plan. The Foundation's FY 2011-2016 Strategic Plan describes three strategic goals: *Transform the Frontiers, Innovate for Society, and Perform as a Model Organization*. EHR's portfolio of E&T programs is a critical part of the Foundation's goal to *Innovate for Society*, specifically the performance goal of "Building the capacity of the nation's citizenry for addressing societal challenges through science and engineering" (p. 14). Information collected under the EHR Generic Clearance may be used for each EHR division's annual report, and these annual reports are used by NSF's leadership to respond to the performance assessment requests. [NSF's 2010 Annual Performance Report](#) specifically identifies that the goal of *Learning* achieved a success of "…100% of the NSF Learning portfolio with established metrics." (p. 3). Many of these data elements are collected in the monitoring systems cleared under OMB 3145-0136. EHR has considerably more quantitative data than other NSF directorates, so having monitoring systems that allow these data to be collected and managed so that they can be successfully reported and used in these performance assessments is critical.

A Foundation for Future Evaluations
Finally, a key measure of NSF's success at achieving its goals is the effectiveness of its STEM education programs. NSF is committed to performing program evaluation in accordance with the President's Accountable Government Initiative. While the monitoring systems used to collect data under the EHR Generic Clearance play a role in this work, it is understood that they are not evaluative studies. The NSF does conduct program-level management reviews to ensure that programs are administered properly and in accordance with Federal guidelines and agency missions, which is the primary use of the EHR Generic data. However, EHR Generic data can play a role in creating a foundation for the kind of evaluation the President's Accountable Government Initiative requires of Federal agencies. While data collected under this generic clearance are not used to evaluate program effectiveness, some of the data can serve as baseline data for separate research and evaluation studies. For example, in order to conduct program-level or portfolio-level evaluations, both experimental and quasi-experimental evaluation research studies on STEM education interventions require researchers to identify individual-level and organizational-level or project-level control and treatment groups or comparison groups. NSF-funded contract or grantee researchers and evaluators in part may identify control, comparison, or treatment groups for NSF's E&T portfolio using some of the descriptive data gathered through OMB 3145-0136 to conduct well-designed, rigorous research and portfolio evaluation studies.

Two examples of third-party evaluations that used EHR OMB 3145-0136 data to inform study design are: OMB No. 3145-0187 (Expiring 8/2011) Evaluation of the NSF's Graduate STEM Fellows in K-12 Education (GK-12) Program and OMB No. 3145-0182 (Expiring 3/2011) Evaluation of the NSF's Integrative Graduate Education and Research Traineeship (IGERT) Program: Follow-up Study of IGERT Graduates, both conducted by Abt Associates.

A.3. Use of Information Technology To Reduce Burden

All of the task collections included under this generic clearance request use Web-based data collection systems to minimize data duplication and respondent burden. Any new collections that will be submitted in the future are also expected to be Web-based.

EHR tends to favor Web-based systems because they facilitate respondents' data entry across computer platforms. One innovative feature of many of the individual Web systems is the thorough editing of all submitted data for completeness, validity, and consistency. Editing and validation are performed as data are entered. Most invalid data cannot be entered into the system, and questionable or incomplete entries are called to respondents' attention before they are submitted to NSF.

EHR Generic Clearance Web-based data collection systems employ user-friendly features such as automated tabulation, data entry with custom controls such as checkboxes, data verification with error messages for easy online correction, standard menus, and predefined charts and graphics. All of these features facilitate the reporting process, provide useful and rapid feedback to the data providers, and reduce burden.

All collections in the EHR Generic comply with Section 508, the 1998 amendment to the Federal Rehabilitation Act, which mandates that the electronic and information technology used by Federal agencies be made accessible to all people with disabilities.

A.4. Efforts To Identify Duplication

The EHR Generic Clearance does not duplicate efforts undertaken by the Foundation, other Federal agencies, or other data collection agents. For example, NSF grants require the submission of Annual and Final Project Reports in accordance with OMB 3145-0058. Recipients of NSF grants, such as Principal Investigators (PIs), must create and submit annual and final project reports using NSF's nationally recognized FastLane Web template. (For more information on FastLane, see here.) To minimize overall response burden, OMB 3145-0136 items are designed so that they can be shared with or use the FastLane Project Reports System Surveys, ensuring that data collection is not duplicated and that data collected under the EHR Generic Clearance are unique and not available elsewhere. Specifically, financial data on program funding are drawn from OMB 3145-0058, which covers applications submitted through the NSF FastLane system and the grants.gov.

A.5. Small Business

No information is to be collected from small businesses.

A.6. Consequences of Not Collecting the Information

Data collected for the EHR Generic Clearance are used to manage programs, monitor projects, coordinate with Federal and non-Federal education partners, provide Congress with information about government-supported activities, and report for GPRA and other requirements. In many cases, the data need to be collected annually to inform the NSF management and evaluation processes. Data collected under the EHR Generic collection can be used by NSF management to measure NSF's success at achieving both Strategic Outcome Goals and internal Annual Performance Goals.

If the information were not collected, NSF would be unable to document the effectiveness and outcomes of its programs. It would not be able to meet its accountability requirements or assess the degree to which projects are meeting their goals. Moreover, NSF would be unable to comply fully with the congressional mandate that the Foundation evaluate its STEM education programs.

A.7. Special Circumstances Justifying Inconsistencies with Guidelines in 5 CFR 1320.6

All data collections will comply with 5 CFR 1320.6. All tasks under the EHR Generic Clearance ask respondents for data annually, with the exception of the Scholarships in Science, Technology, Engineering, and Mathematics Program Monitoring System (attachment G), which asks respondents to submit data each semester/quarter. See attachment G for more information on the frequency of this collection.

A.8. Consultation Outside the Agency

The notice inviting comments on the EHR Generic Clearance (OMB 3145-0136) was published in the Federal Register November 9, 2010, Volume 75, Number 216, pages 68829-68830. No comments were received. A copy of the notice can be found at the end of this document.

When developing collection instruments, EHR routinely consults with research and evaluation experts, PIs, and educators affected by EHR investments. The purpose of these consultations is to assess the relevance, availability, and clarity of items. As suggested by OMB guidelines, these consultations also enable EHR staff to obtain a reliable estimate of the respondent burden generated by new instruments. When a new task is added to the collection or when an existing task is modified to add new instruments, each instrument is pretested with nine or fewer individuals and revised following debriefings with participating respondents.

All outside consultations are described within the context of the specific data collection tasks. In tasks conducted earlier under the EHR Generic Clearance, consultations have included knowledgeable outsiders such as representatives of EHR contractors responsible for technical and evaluation tasks and fellows who work at the Foundation as guests under programs such as the Einstein Fellows Program or the American Association for the Advancement of Science Washington Fellows Program.

A.9. Payments or Gifts to Respondents

To date no payments or gifts have been provided to respondents. There are no plans to provide incentives to respondents because the value of program and project monitoring surveys is of value to the respondents and the NSF.

A.10. Assurance of Confidentiality

Respondents are advised that any information on specific individuals is maintained in accordance with the Privacy Act of 1974. Every data collection instrument displays both OMB and Privacy Act notices.

Respondents are told that data collected for the EHR Generic Clearance are available to NSF officials and staff, evaluation contractors, and the contractors hired to manage the data and data collection software. Data are processed according to Federal and State

privacy statutes. Detailed procedures followed by EHR for making information available to various categories of users are specified in the Education and Training System of Records (63 Fed. Reg. 264, 272 January 5, 1998). That system limits access to personally identifiable information to authorized users. Data submitted are used in accordance with criteria established by NSF for monitoring research and education grants and in response to Public Law 99-383 and 42 USC 1885c.

The information requested may be disclosed to qualified researchers and contractors in order to coordinate programs and to a Federal agency, court, or party in court, or Federal administrative proceeding, if the government is a party.

A.11. Questions of a Sensitive Nature

In some cases, collections in the EHR Generic Clearance request information from respondents including name, address, Social Security number (SSN), date of birth (DOB), and grade point average (GPA). These data are collected in order to monitor the award sites and evaluate the success of the award programs. Information of this nature is also used to track recipients of funding and training. For example, in the IGERT survey (attachment C), trainees' SSNs are used as a tracking mechanism to permit followup studies that examine the long-term effect of the IGERT program on individuals' success. However, in the IGERT collection and in all tasks that request SSN, SSN is a voluntary field. Indeed all items of a sensitive nature are voluntary. Respondents may choose not to provide information that they feel is privileged, such as SSN, address, or date of birth. Any individualized data that are collected are provided only to program staff and consultants conducting studies using the data as authorized by NSF. Any public reporting of data is in aggregate form.

The table below shows which individual tasks include questions of a sensitive nature.

Table 1. Questions of a Sensitive Nature

Attachment	Collection Title	Address	DOB	GPA	Name	SSN
A	Centers of Research Excellence in Science and Technology Monitoring System (CREST)	X			X	
B	Graduate STEM Fellows in K-12 Education Monitoring System (GK-12)	X			X	X
C	Integrative Graduate Education and Research Traineeship Program Monitoring System (IGERT)	X		X*	X	X
D	Louis Stokes Alliances for Minority Participation			X	X	X

Attachment	Collection Title	Address	DOB	GPA	Name	SSN
	Monitoring System (LSAMP)					
E	Louis Stokes Alliances for Minority Participation Bridge to the Doctorate Monitoring System (LSAMP BD)	X		X	X	X
F	Robert Noyce Teacher Scholarship Program Monitoring System (Noyce)		X	X	X	
G	Scholarships in Science, Technology, Engineering, and Mathematics Program Monitoring System (S-STEM)	X	X	X	X	
H	Science, Technology, Engineering, and Mathematics Talent Expansion Program Monitoring System (STEP)	X**			X**	
I	Computer & Information Science & Engineering Pathways to a Revitalized Undergraduate Computing Education Program Monitoring System (CPATH)				X	
J	Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics Monitoring System (TUES)				X***	

*IGERT does not collect GPAs, but does collect the Graduate Record Exam (GRE) scores of individual trainees.

**STEP collects names and addresses for PIs/respondents but not for individual students.

***TUES collects names for PIs/data collection personnel but not for individual students.

A.12 Estimates of Response Burden

A.12.1. Number of Respondents, Frequency of Response, and Annual Hour Burden

As shown in appendix B, and in Table 2 below, the annual response burden for the ten tasks under OMB 3145-0136 is 66,066 hours (for 8,570 respondents). Given the diversity

of respondent types, the methods used to arrive at individual task burden estimates are described in detail in attachments A through J.

Table 2. Respondents, Responses, and Annual Hour Burden

Attachment	Collection Title	No. of Respondents	No. of Responses	Annual Hour Burden
A	Centers of Research Excellence in Science and Technology Monitoring System (CREST)	34	34	1,170
B	Graduate STEM Fellows in K-12 Education Monitoring System (GK-12)	2,040	2,040	4,560
C	Integrative Graduate Education and Research Traineeship Program Monitoring System (IGERT)	3,756	3,756	10,524
D	Louis Stokes Alliances for Minority Participation Monitoring System (LSAMP)	529	529	13,754
E	Louis Stokes Alliances for Minority Participation Bridge to the Doctorate Monitoring System (LSAMP BD)	48	48	3,456
F	Robert Noyce Teacher Scholarship Program Monitoring System (Noyce)	274	274	3,836
G	Scholarships in Science, Technology, Engineering, and Mathematics Program Monitoring System (S-STEM)	500	1,000 (500 respondents X 2 responses/yr.)	6,500
H	Science, Technology, Engineering, and Mathematics Talent Expansion Program Monitoring System (STEP)	213	213	5,538
I	Computer & Information Science & Engineering Pathways to a Revitalized Undergraduate Computing Education Program Monitoring System (CPATH)	76	76	228
J	Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics Monitoring	1,100	1,100	16,500

Attachment	Collection Title	No. of Respondents	No. of Responses	Annual Hour Burden
	System (TUES)			
	Total	8,570	9,070	66,066

NSF estimates approximately 3 new tasks will need to be cleared under the EHR Generic Clearance during the next three years, dependent on budgetary limitation and Congressional mandates. The overall response burden in any year should not exceed 90,000 hours. The burden associated with each new task will be outlined in the individual requests that will be submitted to OMB with a burden change request form.

Below is an example that shows how the hour burden was estimated for the CREST monitoring system, attachment A.

The total number of annual respondents for the CREST monitoring system is 34 (20 CREST PIs/Program Coordinators and 14 HBCU-RISE PIs/Program Coordinators), and the annual burden hour total 1,170. This figure was calculated using the total annual burden reported from the last 3 collection cycles. Respondents will be either PIs or program coordinators. One PI or program coordinator per award completes the questionnaire.

Respondent Type	Estimated Average Annual Number of Respondents	Estimated Average Annual Burden Hours Per Respondent	Estimated Annual Burden Hour Total
CREST Center PIs/Program Coordinators	20	48	960
HBCU-RISE Award PIs/Program Coordinators	14	15	210
Total	**34**	**34.41**	**1,170**

A.12.2. Hour Burden Estimates by Each Form and Aggregate Hour Burdens

Details on the burdens of each form can be found in the task clearances. The table below is an example of how this burden was estimated for the CREST monitoring system, attachment A:

Form Type	Respondent Type	Number of Respondents	Burden Hours Per Respondent	Total Burden Hours
CREST form	PI/Program Coordinator	34	34.41	**1,170**
Total		**34**	**34.41**	**1,170**

A.12.3. Estimates of Annualized Cost to Respondents for the Hour Burdens

As shown in appendix B, the total annual cost to respondents generated by the ten ongoing data collections is currently estimated to be $2,072,257. Below is an example of the method used to calculate cost burden for the CREST monitoring system, attachment A:

The overall annualized cost to the respondents for the CREST data collection is estimated to be $46,798. The following table shows the annualized estimate of costs to PI/program coordinator respondents, who are generally university professors. This estimated hourly rate is based on a report in the April 16, 2010, edition of *The Chronicle of Higher Education* (2010). ("What Professors Earn." *The Chronicle of Higher Education*, 56(31), A10, Washington, D.C.: The Chronicle of Higher Education, Inc.). According to the report, the average salary of an associate professor across all types of doctoral-granting institutions (public, private, church-related) was $83,511. When divided by the number of standard annual work hours (2,080), this calculates to approximately $40 per hour.

Respondent Type	Number, Rate, and Burden	Costs
PIs/Program Coordinators	(34 x $40/hour x 34.41 hours)	$46,798
Total		**$46,798**

The costs to respondents generated by additional data collections will be described in the individual task request for each data collection.

A.13. Estimate of Total Capital and Startup Costs/Operation and Maintenance Costs to Respondents or Record Keepers

There is no overall annual cost burden to respondents or record-keepers that results from the EHR Generic Clearance other than the time spent responding to online questionnaires that are described in specific detail under A.12 within the attached individual task justifications (attachments A through J).

It is usual and customary for individuals involved in education and training activities in the United States to keep descriptive records. The information being requested is from records that are maintained as part of normal educational or training practice.

Furthermore, the majority of respondents are active or former grantees or participants in programs or projects once funded by NSF. In order to be funded by NSF, institutions must follow the instructions in the NSF Grant Proposal Guide that is cleared under OMB 3145-0058. The GPG requires that all applicants submit requests for NSF funding and that all active NSF awardees do administrative reporting via FastLane, an Internet-based forms system, or via grants.gov. Thus, PIs, K-12 administrators, faculty members, and college students, who are the primary respondents to the individual data collections tasks within the EHR Generic Clearance, make use of standard office equipment (e.g., computers), Internet connectivity that is already required as a startup cost and maintenance cost under OMB 3145-0058, and free software (e.g., Netscape or Microsoft Explorer) to respond.

A.14. Estimates of Costs to the Federal Government

As shown in appendix B, the total annual cost to the Federal government of the ten ongoing data collections is currently estimated to be $3,852,259. Details of the costs of each task can be found in appendix B.

Below is an example of the costs to the Federal government from the CREST data collection, attachment A:

Computing the annualized cost to NSF for the CREST and HBCU-RISE data collection was done by taking the budgets for 3 years and calculating the costs for each of the following operational activities involved in producing, maintaining, and conducting the CREST data collection:

Operational Activities	Cost Over 3 Years
System Development (includes initial development of the database and Web-based application, and later changes requested by the program-e.g., increased reporting tools, additional validations)	$357,166
System Maintenance, Updates, and Tech Support (system requires updates each year before opening the collection; maintenance is required to keep the system current with technology, e.g., database servers, operating systems)	$178,583
Data Collection Opening and Support (e.g., online and telephone support to respondents and contacting respondents to encourage completion of the questions), Reporting (as defined by HRD), and Followup activities (e.g., providing data to other consultants)	$134,157
3-Year Total for All Operational Activities	**$669,906**

The annualized cost was computed as one-third of the total 3-year costs; thus, the annualized cost to NSF for the CREST and HBCU-RISE data collection is $223,302.

More details on the costs of existing tasks can be found in the individual task clearances. The costs to the government generated by future data collections will be described in the clearance request for each data collection.

A.15. Changes in Burden

During the last three years, in accordance with OMB's 2001, 2005, and 2008 Terms of Clearance, NSF has requested both:

1. Clearance of new (also called additional) collections as they are formulated
2. Revisions of previously cleared tasks

The current inventory numbers at OMB for the EHR Generic package cover 11 individual collection tasks. The OMB inventory records show a total number of respondents of 44,482 and total burden hours of 44,936.

For this renewal, two of the previous tasks are sunsetting, one previous task was split into two, one previous task was removed to be submitted under a separate clearance, and one new task was added, so we request that OMB approve the ten individual tasks as requested and set their expiration to coincide with the EHR Generic Clearance's expiration in 2014. This renewal requests 66,066 total burden hours for 8,570 respondents; details can be found in appendix B. The change in burden is due to shifts in the number of respondents and small adjustments in the data requested. The chart below shows the changes in burden in the individual tasks:

Table 3. Hour Changes in Task Burdens

Attachment	Collection Title	Previously Cleared Burden Hours	Currently Requested Burden Hours	Change in Burden Hours
A	Centers of Research Excellence in Science and Technology Monitoring System (CREST)	1,971	1,170	-801
B	Graduate STEM Fellows in K-12 Education Monitoring System (GK-12)	6,120	4,560	-1,560
C	Integrative Graduate Education and Research Traineeship Program Monitoring System (IGERT)	9,440	10,524	1,084
D	Louis Stokes Alliances for Minority Participation Monitoring System (LSAMP)	13,680 (14,380 was 2008 total cleared that included	13,754	74

Attachment	Collection Title	Previously Cleared Burden Hours	Currently Requested Burden Hours	Change in Burden Hours
		LSAMP BD)		
E	Louis Stokes Alliances for Minority Participation Bridge to the Doctorate Monitoring System (LSAMP BD)	700 (700 were included in the 2008 LSAMP total of 14,380)	3,456	2,756
F	Robert Noyce Teacher Scholarship Program Monitoring System (Noyce)	1,050	3,836	2,786
G	Scholarships in Science, Technology, Engineering, and Mathematics Program Monitoring System (S-STEM)	3,200	6,500	3,300
H	Science, Technology, Engineering, and Mathematics Talent Expansion Program Monitoring System (STEP)	3,295	5,538	2,243
I	Computer & Information Science & Engineering Pathways to a Revitalized Undergraduate Computing Education Program Monitoring System (CPATH)	180	228	48
J	Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics Monitoring System (TUES)	N/A	16,500	16,500
Not being renewed	Division of Undergraduate Education Project Information Resource System (DUE-PIRS)	1,200	0	-1,200
Not being renewed	NASA Educators Survey	2,084	0	-2,084
Not being renewed	Self-Evaluation Indicator System (SEIS) Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) for Awardees	2,016	0	-2,016
	NSF Estimated Burden Hour Totals	44,936	66,066	21,130

According to the OMB inventory records, the total change of burden is an increase of 21,130 hours.

Table 4. Changes in Number of Respondents

Attachment	Collection Title	Previously Cleared No of Respondents	Currently Requested No. of Respondents	Change in No. of Respondents
A	Centers of Research Excellence in Science and Technology Monitoring System (CREST)	27	34	7
B	Graduate STEM Fellows in K-12 Education Monitoring System (GK-12)	2,280	2,040	-240
C	Integrative Graduate Education and Research Traineeship Program Monitoring System (IGERT)	2,136	3,756	1,620
D	Louis Stokes Alliances for Minority Participation Monitoring System (LSAMP)	380 (2008 clearance of 415 included LSAMP BD)	529	149
E	Louis Stokes Alliances for Minority Participation Bridge to the Doctorate Monitoring System (LSAMP BD)	N/A (35 were included in the 2008 LSAMP total)	48	13
F	Robert Noyce Teacher Scholarship Program Monitoring System (Noyce)	75	274	199
G	Scholarships in Science, Technology, Engineering, and Mathematics Program Monitoring System (S-STEM)	12,400	500	-11,900
H	Science, Technology, Engineering, and Mathematics Talent Expansion Program Monitoring System (STEP)	177	213	36
I	Computer & Information Science & Engineering	60	76	16

Attachment	Collection Title	Previously Cleared No of Respondents	Currently Requested No. of Respondents	Change in No. of Respondents
	Pathways to a Revitalized Undergraduate Computing Education Program Monitoring System (CPATH)			
J	Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics Monitoring System (TUES)	N/A	1,100	1,100
Not being renewed	Division of Undergraduate Education Project Information Resource System (DUE-PIRS)	1,800	0	-1,800
Not being renewed	NASA Educators Survey	25,000	0	-25,000
Not being renewed	Self-Evaluation Indicator System (SEIS) Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) for Awardees	112	0	-112
	NSF Estimated No. of Respondents Totals	44,482	8,570	-35,912

The decrease in respondents is due largely to the removal of three tasks. In future years, the burden will be affected by the deletion and addition of some subtasks and respondents. NSF will notify OMB whenever there are significant changes to the burden.

While burden changes are often due to adjustments in the numbers of respondents, some changes in burden are due to the addition of new items to previously cleared surveys. The table below indicates which tasks in this clearance have had major items added since their last OMB clearance. More details can be found in individual clearances.

Table 5. Major New Items Since Last OMB Clearance

Attachment	Collection Title	Major New Items Added
A	Centers of Research Excellence in Science and Technology Monitoring System (CREST)	No
B	Graduate STEM Fellows in K-12 Education	Yes

Attachment	Collection Title	Major New Items Added
	Monitoring System (GK-12)	
C	Integrative Graduate Education and Research Traineeship Program Monitoring System (IGERT)	Yes
D	Louis Stokes Alliances for Minority Participation Monitoring System (LSAMP)	No
E	Louis Stokes Alliances for Minority Participation Bridge to the Doctorate Monitoring System (LSAMP BD)	No
F	Robert Noyce Teacher Scholarship Program Monitoring System (Noyce)	Yes (Added different instrument version for Track II awards with equivalent questions for two new types of support recipients)
G	Scholarships in Science, Technology, Engineering, and Mathematics Program Monitoring System (S-STEM)	No
H	Science, Technology, Engineering, and Mathematics Talent Expansion Program Monitoring System (STEP)	No
I	Computer & Information Science & Engineering Pathways to a Revitalized Undergraduate Computing Education Program Monitoring System (CPATH)	Yes
J	Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics Monitoring System (TUES)	N/A (New task)

A.16. Plans for Publication, Analysis, and Schedule

Like many agencies, NSF no longer relies on formal (i.e., traditional) publication methods and publication formats. News media advisories, notices of funding opportunities for colleges and universities, and results from survey collections are all examples of the types of publications that NSF regularly publishes without putting ink to paper.

For content authored by NSF or by a third party at NSF's request, the agency rarely uses paper to publish the information. NSF publishes most documents electronically only using the agency's Web site, from requests for proposals to evaluation or statistical reports using an archive called an On-Line Document System (ODS).

In addition NSF runs a Custom News Service, an e-mail and Web-based alert service that sends documents newly published in the ODS (e.g., vacancy announcements, calls for

proposals, statistical reports) to subscribers. Subscribers receive electronically those NSF documents of interest and not the agency's entire publications line.

The other major venue for NSF publications is FastLane. The NSF FastLane system collects and publishes information from NSF's clients (i.e., applicants for funding to NSF) using the Web. When an applicant's proposal has been funded, that applicant's name and other key data are published on NSF's Web site. Each week the FastLane Web site publishes a list of new awards using data gathered from the application process.

Like NSF itself, the scope of publication plans and practices by the OMB 3145-0136 EHR Generic Clearance has a dual nature. Some individual collections contribute to formal products (e.g., analytical reports) that can be published by NSF's ODS. Some collections produce only the respondents' replies that are posted verbatim on the EHR share of the NSF Web site for anyone to download.

Most of what the EHR Generic Clearance OMB 3145-0136 collects, however, is not published as a stand-alone product, because the data are an input to how NSF manages and measures its performance as an agency. NSF's GPRA Performance Report or an individual division's annual report to the NSF Director uses information from OMB 3145-0136 to report to Congress. This is an annual cycle.

Most of these tasks are the work of third-party contractors that deliver 1) analytical reports, 2) the raw data from the collections, or 3) both. Third parties are contractually forbidden from publishing results unless NSF has made a specific exception. In short, all products of the collections are the property of NSF. After the products are delivered, NSF determines whether the quality of the products deserves publication verbatim by NSF; i.e., NSF typically is the exclusive publisher of the information collected by OMB 3145-0136. Often it is only after seeing the quality of the information the collection delivers that NSF decides the format (raw or analytical) and manner (in the ODS or simply a page on the NSF Web site) in which to publish.

EHR recurring studies are done to monitor, manage, and communicate with and about the clients funded by NSF's investment in education and training. In most cases the primary purpose for each recurring study is program management. These studies generate data that enable both NSF and the funded education and training projects to improve management and performance. Typically, recurring studies generate information that NSF uses as inputs to other reports, and therefore EHR cites no specific publication plans other than internal or general use to meet reporting requirements.

EHR uses data from recurring studies to provide information that can be mined for program evaluation purposes, such as identifying best practices in the education of graduate and undergraduate students or as a baseline for summative evaluation reports. In the past, using data in part, but not exclusively, from OMB 3145-0136, the following evaluative or descriptive analysis research reports have been produced:

A Description and Analysis of Best Practice Finding of Programs promoting participation of underrepresented undergraduate student in Science, Mathematics, Engineering and Technology (Westat) ([NSF 01-31](#))

Summary Report on the Impact Study of the National Science Foundation's Program for Women and Girls (The Urban Institute) ([NSF 01-27](#))

At this time, NSF has no set timeline for publishing reports from these recurring studies, but plans that a summary or descriptive report be produced within two years of completion of the data collections for each recurring study.

A.17. Approval to Not Display Expiration Date

Not applicable

A.18 Exceptions to Item 19 of OMB Form 83-I

No exceptions apply.