



**REQUEST FOR CLEARANCE  
NASA OFFICE OF EDUCATION  
EDUCATOR SURVEY  
USING NASA RESOURCES IN THE CLASSROOM**

## **Section A**

### **Introduction**

This request for Office of Management and Budget (OMB) review asks for clearance of the data collection for NASA's Office of Education under the NSF's EHR Generic Clearance 3145-0136. This new task under for the EHR Generic Clearance was developed in accordance with the Memorandum of Understanding (MOU) NASA and NSF signed in February 2007. The purpose of the MOU is to facilitate a collaborative partnership that advances the scientific and technological capabilities of the Nation and coordinate the education efforts of these Agencies to promote a comprehensive knowledge base for addressing national challenges and to manage resources efficiently. The NASA-NSF MOU shall remain in effect for a 5-year term from the effective date. In short, through the MOU NASA and NSF agreed to engage in mutually productive, collaborative program coordination, management, monitoring, and evaluation activities. A copy of the MOU is available on the NASA website

at:[http://education.nasa.gov/divisions/higher/overview/F\\_One\\_Giant\\_Step\\_STEM\\_Education.html](http://education.nasa.gov/divisions/higher/overview/F_One_Giant_Step_STEM_Education.html)

### **A.1. Circumstances Requiring the Collection of Data**

NASA's Office of Education (OE) serves as the focal point for NASA education. NASA's Education Strategic Coordination Framework aligns NASA's total education portfolio with its Strategic Plan; provides a coordination structure; and creates an agency-wide strategic planning, implementation and evaluation framework for NASA's investments in education. The document builds on the education goals identified in the Agency 2006 Strategic Plan and identifies three specific and measurable outcomes to allow achievement of those goals. The plan encompasses all education efforts undertaken by NASA and guides the agency's relationships with external education partners, including Minority Serving Institutions, professional associations, universities, school systems, industry and other federal agencies. Examples of NASA OE programs are:

Aerospace Education Service (AESP). AESP is a comprehensive project designed to reach out to the formal education community in all fifty states and the U.S. territories.

Digital Learning Network (DLN). This network of videoconferencing programs enhances NASA's capability to deliver unique content by linking customers with one or more NASA Centers in an integrated fashion.

Educator Astronaut (EA). The EA program develops new ways to connect space exploration with the classroom

Educator Resource Center (ERC). The ERCs provide educators with inservice and preservice training, demonstrations, and access to NASA instructional products.

NASA Explorer Schools (NES). Selected School Teams of educators and administrators join NASA in a three-year partnership for sustained professional development to develop rich learning opportunities in mathematics, science, and technology for students and families.

Science Engineering Mathematics Aerospace Academy (SEMAA). A national innovative program designed to increase participation and retention of K-12 youth who are underrepresented in the areas of Science, Technology, Engineering, and Mathematics.

In addition to GPRA, two executive orders one old and one new provide the legal authority for this collection. The 1993 Executive Order (EO) 12862, "Setting Customer Service Standards," direct agencies to put the public first by having a "revolution within the Federal government to change the way it does business." EO 12862 requires continual reform of government practices and operations to the end that, "when dealing with the Federal agencies, all people receive service that matches or exceeds the best service available in the private sector." Section 1(b) of this E.O. requires agencies to "survey customers to determine the kind and quality of services they want and their level of satisfaction with existing services"

The newer EO 13450 issued November 2007, "Executive Order: Improving Government Program Performance" asks agencies to

- (i) assess performance of each program administered in whole or in part by the agency; and
- (ii) consider means to improve the performance and efficiency of such program;

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

Consistent with these EOs, the purpose of this survey is to assess customer satisfaction with and use of NASA education resources. It is important for the agency, the administration, the Congress and the American people to understand whether and how educators use NASA materials and how they contribute to attracting and retaining students to STEM disciplines.

## **A.2. Purposes and Uses of the Data**

The purpose of this data collection is to assess use among educators of NASA-inspired resources. The survey will obtain information and advice from participants regarding means to improve the performance and efficiency of NASA's education portfolio. Results from the surveys will be used to establish better defined goals and standards for measuring progress, with a particular emphasis on refining or redefining processes in order to make improvements to the way NASA provides resources to educators. This process of improvement will enhance NASA's strategic planning, performance planning, and performance reporting efforts as required by the Government Performance and Results Act of 1993. This survey will accomplish these objectives by providing useful information to assess customer satisfaction with the educator resources effectiveness and identify better practices. NASA may also use the information to share this information with NSF to revise the program's policies and procedures.

## **A.3. Use of Information Technology To Reduce Burden**

NASA educator survey has user-friendly features (e.g. custom controls such as checkboxes.) It complies 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 information to be supplied does not duplicate on any other information collection. As mentioned in response to item A.1., the Circumstances Requiring the Collection of Data, this is the first follow up survey for of this project: no other customer satisfaction or implementation studies have been conducted. The educators have not previously had the chance to self-report their demographic data, which is the preferred standard for collecting this data.

## **A.5. Small Business**

Not applicable.

## **A.6. Consequences of Not Collecting the Information**

If this data collection is not conducted, NASA will not be able to assess program effectiveness or identify practices and suggestions that provide guidance on program improvement. NASA will not be able to meet its accountability requirements or assess the degree to which the Office of Education is meeting NASA's strategic goals.

The data primarily are used to monitor projects supported by NASA, to provide quantitative information in response to the Government Performance and Results Act (GPRA), and to inform NASA and NSF decision-making. In addition, information collected will be disseminated to the broad STEM education community, including current and prospective educators. Less timely and complete information will adversely affect the quality and currency of all these endeavors.

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

All data will be collected in a manner consistent with the guidelines in 5 CFR 1320.6.

## **A.8. Consultation Outside the Agency**

The notice inviting comments on the EHR Generic Clearance (OMB 3145-0136) which specifically cited a NASA-NSF collaboration on data collections was published in the Federal Register August 24, 2007, Volume 72, Number 164, page 48694. No comments were received.

## **A.9. Payments or Gifts to Respondents**

Not applicable.

## **A.10. Assurance of Confidentiality**

Any information collected in this survey will be maintained in accordance with the Privacy Act of 1974. All data collected will be available to NASA 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.

## **A.11. Questions of a Sensitive Nature**

Some sensitive information is requested in "Part II: Participant Demographic Data" in order to ascertain whether subgroups of educators are more or less satisfied with NASA materials and the impact in the classroom. These data also are collected in order to monitor whether the NASA educator sites are providing individuals from ethnic, racial, gender or disability groups traditionally under participating in STEM with access to NASA programs, meetings, vacancies, and other research and educational opportunities.

NASA must conduct its activities so that they contribute to the preservation of the role of the United States as a leader in aeronautical and space science and technology and "to provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof." Respondents may choose not to provide information that they feel is privileged. Any individualized data that are collected are provided only to program staff and consultants conducting studies using the data as authorized by NASA. Any public reporting of data is in aggregate form.

## **A.12 Estimates of Response Burden**

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

The total average number of annual respondents is 25,000 and the average total annual person-hours is 2084. The Web-based collection is an annual activity. On average annually NASA offers site-based training in NASA resources at NASA centers around the United States. These sites collectively report 25,000 educator participants. NASA anticipates that the overall participant number is an annual constant over time.

The burden estimate is outlined below:

<b>Type of Respondent</b>	<b>Average Number of Respondents</b>	<b>Annual Burden Hours Per Respondent</b>	<b>Annual Person-Hours</b>
Educator	25,000	5 min or .8 hours	2804
<b>Total respondents</b>	<b>25,000</b>	<b>Total estimated hours</b>	<b>2804</b>

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

The NASA Educator survey consists of one form. The estimated total annual response burden is 2084 person-hours. The annual burden by form was calculated as follows:

<b>Form Type</b>	<b>Respondent Type</b>	<b>Number of Respondents</b>	<b>Burden Hours Per Respondent</b>	<b>Total Person-Hours</b>
Educator survey	NASA-participating educator	25,000	.8 hours	2804
Total		25,000		2804

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

There is no cost to respondents other than the time it takes to respond to the survey.

The hourly rate for educators was established by using the Bureau of Labor Statistic's May 2006 National Occupational Employment and Wage Estimates, which estimates the mean annual wage for those in Education, Training, and Library Occupations to be \$45,320. This average annual wages was then divided by the number of standard annual work hours (2,080) to determine an average hourly rate. The rates and the total costs are indicated in the table below:

Educator	(25,000 x \$22/hour x .8 hours)	\$440,000
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### **A.13. Estimate of Total Capital and Startup Costs/Operation and Maintenance Costs to Respondents or Record Keepers**

Not applicable. It is usual and customary for individuals involved in education and training activities in the United States to keep descriptive records. The information requested relates to normal educational or training practice. Furthermore, the majority of respondents are former participants in programs or projects once funded by NASA. Primary respondents still employed as educators use standard office equipment (e.g., computers), an internet connectivity that is provided at their schools including free software (e.g., Safari, Netscape or Microsoft Explorer) to respond.

### **A.14. Estimates of Costs to the Federal Government**

NASA has had a technical assistance contract for data collection and analysis support with REI, Greenbelt MD.

Computing the annualized cost to NASA for the educator 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 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) \$ 10,000

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) \$ \$20,000

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) \$ \$75,00

3-Year Total for All Operational Activities \$ \$105,00

The annualized cost was computed as one-third of the total 3-year costs; thus, the annualized cost to

NASA for this collection is estimated to be: \$35,000

### **A.15. Changes in Burden**

Not applicable.

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

Like many agencies, NASA has reduced reliance on traditional, paper-based publication methods and publication formats. Any contractor who assists in gathering the data is forbidden contractually from publishing results unless NASA has made a specific exception. In short, all products of this collection are the property of NASA. After the data are delivered, NASA determines whether the quality of the data deserves publication by NASA, i.e., NASA is the exclusive publisher of the information being gathered. Often it is only after seeing the quality of the information that NASA can make a decision on the format (raw or analytical) and manner in which to publish.

The requested information is used primarily for program and project monitoring, reporting needs for GPRA, EO 13450, and OE annual reports, and communication to the STEM education community. These data generated primarily as inputs to other internal and external NASA reports (e.g., the GPRA Annual Performance Plan). At this time, NASA has no set timeline for publishing full interim reports from this survey.

Managers at NASA Headquarters and NASA centers, including NASA's Education Coordinating Committee, may use preliminary data to improve management and performance. In addition, the data are shared in aggregate form in discussions, speeches, and seminars on the topics of educational research.

### **A.17. Approval to Not Display Expiration Date**

Not Applicable

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

No exceptions apply.

## **Section B**

### **Introduction**

#### **B.1. Respondent Universe and Sampling Methods**

#### **B.2. Information Collection Procedures/Limitations of the Study**

This data collection uses a web-based survey or an e-mail alternative. Each respondent provides answers for each year that they participate in a NASA-sponsored teacher professional development experience. This census survey will be sent to the teachers 3 months or more after they have participated in the professional development. A response rate of 50% is anticipated.

##### **B.2.1. Statistical Methodology for Stratification and Sample Selection**

This data collection is a census, so no sampling is required.

##### **B.2.2. Estimation Procedure**

Not applicable.

### **B.2.3. Degree of Accuracy Needed for the Purpose Described in the Justification**

Not applicable.

### **B.2.4. Unusual Problems Requiring Specialized Sampling Procedures**

Not applicable.

### **B.2.5. Use of Periodic (Less Frequent Than Annual) Data Collection Cycles**

Not applicable.

## **B.3. Methods for Maximizing the Response Rate and Addressing Issues of Nonresponse**

Information is collected from educators who have been trained in the use of NASA produced resources. At present NASA collects feedback information from participants before they leave the training, including their e-mail addresses and other contact information. 50 % of educator participants provide feedback at the training site. Therefore the response rate in any one year is likely to be near 50%, since the respondents were motivated to provide their contact information. Sites may call or e-mail respondents one reminder if the survey is not completed within 30 days.

## **B.4. Tests of Procedures or Methods**

The follow up survey is modeled on the on-site survey that was developed including extensive consultation with potential respondents. On-site respondents use ink to respond, so the follow up survey is less burdensome since it employs checklists. It is similar and much shorter than to all other instruments previously cleared by NSF.

## **B.5. Names and Telephone Numbers of Individuals Consulted**

### **Agency Unit**

William Neufeld, COTR, NSF Division of Research on Learning in Formal and Informal Settings, (703) 292-5148

Mary Sladek, Outcome Manager, Informal Education, NASA HQ 202-358-0861

NASA HQ data support contract with REI likely will be responsible for data collection and analysis under the direction of Dr. Shelley Canright, Outcome Manager, Elementary and Secondary Education. 202-358-0121