

Supporting Statement for OMB 2700-0157

TITLE: The NASA Human Exploration Rover Challenge

TYPE OF INFORMATION COLLECTION: Extension with change of an expiring collection.

1. Explain the circumstances that make the collection of information necessary.

Through this clearance, NASA's Marshall Space Flight Center's Academic Affairs Office seeks to renew its collection of information from members of the public to plan, conduct, and register participants and volunteers for the NASA Human Exploration Rover Challenge, which supports science, technology, engineering, or mathematics (STEM) education.

NASA's engineering design challenge focuses on NASA's current plans to explore planets, moons, asteroids, and comets -- all members of the solar system family. The challenge focuses on designing, constructing, and testing technologies for mobility devices to perform in different environments, and provides valuable experiences that engage students in the technologies and concepts that will be needed in future exploration missions.

The competition is open to high school (children above the age of 13) and college students and challenges them to create a vehicle designed to traverse the simulated surface of another world.

The NASA Human Exploration Rover Challenge has proven to be a successful educational event, therefore NASA is extending this information collection for three additional years.

In the spirit of continual improvement, NASA is requesting an extension with change. Participants can now re-use vehicles from previous events, provided at least fifty percent of the combined total structure and associated systems have been modified or replaced. As a result, a new information collection instrument, NASA Form 4687/*Returning Vehicle Report and Verification* is added to this information collection to support this change. Public participation remains voluntary.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

In compliance with the Government Performance and Results Modernization Act (GPRAMA) of 2010, NASA collects data on its educational activities to ensure that progress is being made toward Strategic Objective 2.4 and its associated performance goals, and to collect evidence of the impact of NASA educational programs (NASA Education, 2016, pp. 8-9). The information

from this data collection, project activity, and administrative data will be used in accordance with the criteria established by NASA for monitoring research and education projects. This information collection is also necessary to provide NASA Education projects with information on participants necessary to determine participant eligibility, select participants, identify accommodations for participants, and provide other information necessary for effective activity implementation.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

Information is collected through Web-based forms to decrease burden time/cost for users.

4. Describe efforts to identify duplication.

Applicant data are distinct and specific to this project and does not duplicate other NASA Education activities. Returning participants are asked to update registration information to ensure the most current information is obtained from advisors and students.

5. If the collection of information impacts small businesses or other small entities (Item 5 of OMB Form 83-I), describe any methods used to minimize burden.

This information collection does not impact small business or other small entities.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Without gathering the data, NASA will not have the information necessary to plan and conduct the NASA Human Exploration Rover Challenge, and will be unable to fulfill NASA Education and NASA agency performance assessment reporting requirements. This is the least frequent data collection that will enable NASA to plan the annual competition.

7. Explain any special circumstances.

There are no special circumstances associated with this data collection.

8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB.

On Dec. 16, 2016 NASA published the 60-day FRN: Number 16-085, Vol. No. 81, page 91206. No comments were received from the public.

On June 7, 2017 NASA published the 30-day FRN: Number 17-033, Vol. 82, No. 108, page 26519. No comments were received from the public.

9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

Prizes are awarded to the three teams in each division that finish fastest, with the fewest penalties. Funding for prizes is provided by/through the U.S. Space & Rocket Center (USS&RC).

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

Information collected under the purview of this clearance will be maintained in accordance with the Privacy Act of 1974, the e-Government act of 2002, the Federal Records Act, and as applicable, the Freedom of Information Act in order to protect respondents' privacy and the confidentiality of the data collected.

Users will be presented a privacy statement specific to this collection and a link to the NASA Web Privacy Policy, as well as a notice before entering data that will include a Paperwork Reduction Act (PRA) statement. The notice will explain what information will be collected, under what authority, how the information will be used and by whom, and will provide a contact for updating or correcting their information.

Records will be retained for five (5) years in accordance with the NASA Retention Schedule for the NASA Education Program: 1/68 C.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

Participants will not be asked any questions considered to be of a sensitive nature. Participants will be asked to provide information on any special physical, medical, or dietary needs; this information is used by staff to ensure proper accessibility (facility, audio, etc.) and appropriate nutrition are available during the event, as well as to define any special resources needed (staff, equipment, etc.).

12. Provide estimates of the hour burden of the collection of information.

A burden table displaying respondent count, frequency of response, completion time, total burden time, and cost to participant per IC instrument are provided below. NASA reports a burden increase

**Estimates of Annualized Burden Hours and Cost for
the NASA Human Exploration Rover Data Collections**

Data Collection Sources	Number of Respondents	Frequency of Response	Total Minutes per Respondent	Total Response Burden in Hours	Estimated Cost Per Hour	Total Cost Burden
U.S. Team Registration (advisors: 64 local/state gov and 16 private sector)	80	1	6	8	\$34.84 ^a	\$278.72
International Team Registration (advisors: local/state gov)	20	1	6	2	\$34.84 ^a	\$69.68
Student Data Form (individuals)	610	1	3.5**	36	\$7.25 ^b	\$261
Confirmation Email (all advisors—state/local gov)	100	1	1	2	\$34.84 ^a	\$69.68
Team Photo Submission (all advisors—state/local gov)	100	1	3	17	\$34.84 ^a	\$592.28
Volunteer Registration (individuals)	250	1	3	13	\$25.71 ^c	\$334.23
Returning Vehicle Report and Verification	25	1	49	20.42	\$34.84	\$3016.88
Total Burden	1185		71.5	1412.13		\$4622.47

Notes:

^a Estimated cost per hour for advisor is calculated based on the mean of the national median income of post secondary educators (\$72,470 year/\$34.84 hour) rather than high school educators (\$57,200 year/27.50 hour) since most participants are college teams. Based on Department of Labor statistics for 2015.

<http://www.bls.gov/ooh/education-training-and-library/high-school-teachers.htm>

<http://www.bls.gov/ooh/education-training-and-library/postsecondary-teachers.htm>

^b Estimated cost per hour for students is based on the U.S. federal minimum wage hourly rate.

<http://www.dol.gov/dol/topic/wages/minimumwage.htm#.UO2c50HNkYI>

^c Estimated cost per hour for Volunteers is based on the national median income of \$53,482 annually (~\$25.71 per hour, assuming a 40-hour work week) for 2010-2014 according to the Current Population Survey (http://www.census.gov/ch16-ff14_labor_day_income.html).

^d Cost to respondent is negligible (\$1.67 each), as students and most educators aren't paid to participate but conduct the activity on an out-of-classroom basis.

* Advisors complete multiple forms; therefore, the respondent count shown eliminates duplication and reflects only unique participants.

** Since becoming automated, the student data form replaces the College Data Form and the High School Student Data form; therefore, the estimated completion time is the average between the test times for the PDF versions of the form, as the new form has just been completed and has not been tested. Burden time and burden costs remain the same, though they may decrease given the expectation that the new electronic form may decrease burden time.

13. Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information.

Respondents are not paid, and participate on a completely voluntary basis.

14. Provide estimates of annualized costs to the Federal government.

Expense	Cost
Rover Volunteer Form (Server, software, and personnel)	\$3,575
Rover Admin (Server, software and personnel)	\$1,550
Rover Public (Server, software and personnel)	\$2,300
TOTAL ANNUALIZED COST	\$7,425

The total *annualized* cost to the Federal Government is estimated at \$7,425. This estimate captures operational expenses associated with system maintenance, server space, and staff necessary to support the online collection instruments.

15. Explain the reasons for any program changes/adjustments reported in Items 13 or 14 above.

Costs shown in the previously approved information collection were higher because system/form development and purchase of server space were incorporated into the original estimate. The annualized cost of \$7.425K reflects maintenance, server space, and staff required to support this collection forward.

16. For collections of information whose results will be published, outline plans for tabulations and publication.

Results will not be published.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

The expiration date of this information collection will be displayed on all forms.

18. Explain each exception to the certification statement in Item 19, "Certification for Paperwork Reduction Act Submissions."

The NASA Office of Education takes no exception to regulatory provisions of 5 CFR 1320.9

NASA Education IC Sponsor: Julie Clift, Education Program Specialist, NASA Human Exploration Rover Challenge Project Manager, NASA Marshall Space Flight Center.