

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

TITLE: “STUDENT PROGRAM FOR ENVIRONMENTAL EXCELLENCE IN DESIGN (SPEED)”

ACTION: Request for Applications (RFA)

RFA NUMBER: EPA-OAR-OTAQ-14-01

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO: 66.037

DATES: The closing date and time for receipt of application submissions, regardless of mode of submission, is **April 14, 2014, 4:00 p.m., Eastern Time (ET)**. All hard copies of application packages must be received by Tricia Bosler by **April 14, 2014, 4:00 p.m. ET** in order to be considered for funding. Electronic submissions must be submitted electronically to EPA through Grants.gov (<http://www.grants.gov>) by **April 14, 2014, 4:00 p.m. ET** in order to be considered for funding. Applications received after the closing date and time will not be considered for funding.

To allow for efficient management of the competitive process, EPA requests submittal of an informal notice of an **Intent to Apply by March 14, 2014** to bosler.tricia@epa.gov. Submission of Intent to apply is optional; it is a process management tool that will allow EPA to better anticipate the total staff time required for efficient review, evaluation, and selection of submitted applications.

SUMMARY: This notice announces the availability of funds and solicits applications from eligible entities for creation and management of the Student Program for Environmental Excellence in Design (SPEED). This project has two components. The first focuses on development of a graduate level research training and support program that involves a research partnership between EPA and eligible entities to continue advanced engine research and development by providing federal funding support for graduate level students. The recipient will work with EPA’s National Vehicle and Fuel Emissions Laboratory (NVFEL) to develop collaborative research relationships between EPA NVFEL staff and engineering students and faculty in this program.

The second component of this project is to design and manage a program to introduce and motivate undergraduate level students to consider the professional pursuit of technical careers with an interdisciplinary perspective that focuses on improving public health and the environment and provides related training to such students.

In particular, the SPEED aims to increase students’ awareness and understanding of the environmental benefits stemming from increasing fuel efficiency, reducing carbon intensity in transportation fuels, and reducing emissions in advanced vehicles. The SPEED will provide opportunities and financial assistance to eligible entities to collaborate with EPA staff and to provide graduate and undergraduate students with laboratory experiences within EPA’s National Vehicle and Fuel Emissions Laboratory (NVFEL) in the science, technology and engineering disciplines.

FUNDING/AWARDS:

The total estimated funding for this competitive opportunity is approximately \$300,000 for up to a four-year period. EPA anticipates awarding a single cooperative agreement from this announcement, subject to availability of funds, the quality of applications received, and other applicable considerations.

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I. FUNDING OPPORTUNITY DESCRIPTION

A. Background

For over 25 years, EPA's National Vehicle & Fuel Emissions Laboratory (NVFEL), a part of the Office of Transportation and Air Quality (OTAQ), has led efforts to develop vehicles and engines that are clean and efficient, demonstrating feasibility of future emissions standards. Improving fuel efficiency offers a wide range of societal benefits such as lowering consumers' fuel expenditures, reducing US dependence on imported foreign oil, conserving capital for the US domestic economy, and reducing emissions of carbon dioxide, the most prevalent greenhouse gas. Improving criteria pollutant emissions offers cleaner air and reduced rates of respiratory disease and mortalities associated with toxic air pollution.

Recently, NVFEL started collaborating with universities and institutions of higher learning to continue advanced engine research and development by providing federal funding that could yield a significant contribution to cost-effective energy-saving technologies, and reducing Greenhouse Gas (GHG) and criteria pollutants in both heavy-duty and light-duty vehicles. The agenda and content of these investigations are based on a combination of grant recipient expertise and experience, coupled with feedback from the EPA, and ongoing contact between the recipient and the EPA. Close interactions with principle investigators, as well as with EPA, ensure these projects are developed and offered to meet current and ongoing needs of energy-saving technologies and air quality improvement.

Furthermore, the NVFEL strives to assist in building the research capacity of educational institutions to address ways to manage air quality and increase undergraduate and graduate engineering human capital through support of student programs in automotive emissions research. The NVFEL has supported these activities through grant funding and by providing expertise and technical resources to support similar programs since its inception. In addition to the investigative research, a cooperative relationship with the EPA provides educational institutions the elements to help ensure that engineering and technical science programs are supported.

B. Scope of Work

EPA's Office of Transportation and Air Quality is soliciting applications from eligible entities capable of designing and managing the *Student Program for Environmental Excellence in Design*. The SPEED is a culmination of the investigative studies, collaboration with NVFEL, and student programs that federal funding has supported through the years.

In their applications, applicants must address how they will accomplish SPEED's two major components as described below:

1. **Development of Graduate level research training and support.** This program element involves a research partnership between EPA and the recipient to continue advanced engine research and development by providing federal funding support for graduate level students to perform such research. Research topics must be focused on studies and engine development that could yield a significant contribution to reducing Greenhouse Gas emissions and investing in the development of advanced technologies, processes and test methods that will lead to these reductions. Furthermore, applications must demonstrate how the project will be designed to provide education and training support to graduate students at a university to develop interest, understanding, and the abilities to pursue technical careers performing studies and research in the fields of mechanical engineering and environmental science. It is

anticipated that no more than two graduate-level students will be supported under this component of SPEED.

EPA is interested in continuing its efforts towards cost-effective energy-saving technologies and reducing Greenhouse Gas (GHG) and criteria pollutants in both heavy-duty and light-duty vehicles. Suggested topical areas for graduate level study that may be worthy of attention include applications or uses of state-of-the-art analysis, experimental techniques or test methods that would promote advances in internal combustion engines, low-GHG transportation fuels, connected and autonomous vehicle systems, or emissions measurement methods. However, applicants may also focus on other relevant areas worthy of further investigation.

The activities and investigative aspects of the project as described above must be consistent and involve a cooperative relationship with EPA. Furthermore, applicants must address the following items in their applications for this project component:

- How they will establish a merit-based process for identifying qualified graduate students that would be provided the opportunity to conduct their program research in partnership with the U.S. EPA at its Ann Arbor, Michigan National Laboratory which specializes in advanced engine research. As part of this, applicant should describe outreach efforts to attract qualified students.
 - A description of the process that will be used to calculate and administer stipends for graduate students.
2. **Development of senior-level Undergraduate major design experience.** The second component under this project that applicants must address in their application relates to the design and development of an engineering research program for senior-level (4th year) undergraduate students at a university. It is expected that several senior-level undergraduate students will be supported each school semester. Students must be prepared for engineering practice through a curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple practical real-world experience.

Applicants must describe in their application how the senior-level undergraduate major design projects will address the following:

- Develop and describe in detail how the projects include a particular focus on reducing Greenhouse Gas emissions through application or use of advanced technologies, processes and test methods. For example, the project could include measurement and detailed analysis of carbon dioxide exhaust emissions from a test vehicle operating over a prescribed test cycle.
- The projects shall be based on sound, established science and be senior-level appropriate.
- The instruction must be project-based, including hands-on activities and practical real-world experiences. For example, students would work in a laboratory under controlled test conditions to evaluate emissions measurement techniques applied to real-world operating cycles.

Additionally, applicants must show how the research projects address three to five of the following topics that relate to reducing GHG and pollutant emissions in light-duty vehicles, in the context of a senior level undergraduate major design experience and collaborative educational opportunity.

- a. Practical means to achieve the highest theoretical potential for internal combustion engines.** As turbocharged gasoline engines become a more significant portion of the light-duty fleet, new challenges with energy management provide new opportunities for more efficient and clean combustion as well as innovative exhaust heat recovery systems, targeting over 50 percent system brake thermal efficiency. Technology pathways may include lean-burn combustion engines, dilute (EGR) combustion engines, low heat rejection engines, and exhaust waste-heat energy recovery systems
- b. Liquid transportation fuels with ultra-low “well-to-tank” GHG emissions.** Achieving sustainable GHG emissions from the transportation sector in the 2050 timeframe, the carbon intensity (GHG/BTU) of liquid transportation fuels must be lowered by 60%-90%. To achieve these levels of GHG reduction from liquid transportation fuels, breakthroughs in the use of natural gas, corn or other cellulosic feedstocks – sources that are plentiful in the U.S. – must be identified, and realistic, effective pathways for utilizing these resources must developed.
- c. Alternative fuel engines with ultra-low NOx and PM emissions.** Lowering criteria emissions of engines that use ultra-low GHG fuels to NOx and PM levels that are less than one-tenth the 2010 Heavy-Duty On-Highway standard would help enable heavily-populated areas to improve regional air quality while reducing GHGs.
- d. Connected and autonomous vehicle systems.** Identifying strategies for combining vehicle-to-vehicle and vehicle-to-infrastructure communication systems with autonomous vehicle systems may provide a pathway for significant reductions in emissions and in demand for fossil fuels. Recent analyses have shown that connected vehicle systems can reduce GHG and near-roadway emissions associated with vehicles that are stationary, idling, and traveling in a stop-and-go pattern due to congestion relative to those traveling in free-flow conditions.
- e. Ultra-low emissions measurement methods.** Reducing emissions-related respiratory diseases depends on the development of highly reliable and repeatable exhaust emissions measurements and analysis techniques, especially improvements to measurements of particulate matter (PM).

With our strong interest in developing focused workforce educational expertise in the engineering fields described, EPA recommends applicants give important consideration to how they will provide for and coordinate student activities with staff at the National Vehicle and Fuel Emissions Laboratory (NVFEL) in Ann Arbor, MI, in their decision to compete for funding under this project. NVFEL is the site of EPA's core compliance, regulation development and advanced technology development activities, and will be the center for collaborative interactions with students. Participants from the recipient organization will be required to communicate frequently, and ideally travel to and spend extended periods of time at NVFEL to complete the investigation and demonstration of their technological projects. Applicant's budgets should reflect such travel and/or communication costs.

C. EPA Strategic Plan Linkage & Anticipated Outcomes, Outputs & Performance Measures

Pursuant to Section 6a of EPA Order 5700.7, “Environmental Results under EPA Assistance Agreements,” EPA

must link proposed assistance agreements to the Agency's Strategic Plan. EPA also requires that grant applicants and recipients adequately describe environmental outputs and outcomes to be achieved under assistance agreements (see EPA Order 5700.7, Environmental Results under Assistance Agreements http://www.epa.gov/ogd/epa_order_5700_7a1.pdf)).

1. Linkage to EPA Strategic Plan. All applications must support EPA Strategic Plan Goal 1 ‘Taking Action on Climate Change and Improving Air Quality; Objective 1.1 ‘Address Climate Change’ of EPA’s 2011-2015 Strategic Plan, which states, “Reduce the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help communities and ecosystems become more resilient to the effects of climate change.” *“By 2015, the light-duty vehicle greenhouse gas rule will achieve reductions of 99 MMTCO₂Eq”, and Objective 1.2: Improve Air Quality: “Achieve and maintain health-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants”*. EPA’s Testing and Advanced Technology Division works to assess and address global climate change and the associated risks of human health and the environment.

Specifically, the proposed activities of developing advanced clean and fuel-efficient technology support analytical projects to advance understanding of climate change science, impacts, and mitigation options. Such analyses provide insights for developing strategies to reduce greenhouse gas emissions and air pollutants that will have substantial environmental and human health benefits. These benefits include reductions in average global temperature increases and the associated impacts, as well as health and environmental impacts related to reductions in criteria air pollutants.

Please visit [EPA’s FY 2011-2015 Strategic Plan](#) for more information.

2. Outputs. The term “output” means an environmental activity, effort, and/or associated work product related to an environmental goal and objective that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative but must be measurable during an assistance agreement funding period.

Expected outputs from the project(s) to be funded under this announcement may include the following: *refinement of existing, and identification of novel engine and vehicle systems needed to achieve ultra-low emissions and reduced GHGs as well as expand the fundamental scientific/engineering understanding and increase the undergraduate and graduate engineering human capital in areas of interest to the program.*

Progress reports and a final report will also be a required output, as specified in Section VI(C) of this announcement, “Reporting Requirement.”

3. Outcomes. The term “outcome” means the result, effect or consequence that will occur from carrying out an environmental program or activity that is related to an environmental or programmatic goal or objective. Outcomes may be environmental, behavioral, health-related, or programmatic in nature, but must be quantitative. They may not necessarily be achievable within an assistance agreement funding period.

The project(s) to be funded under this announcement are expected to produce at least one, and preferably all, of the following environmental outcomes: *expanded interest and human capital in career fields of vehicle technologies, engineering, and the like; increasing fuel efficiency and reducing emissions with advanced engines, vehicles and fuels, aimed at improving health-related and global*

climate emissions.

4. Performance Measures. The applicant should also develop performance measures they expect to achieve through the proposed activities and describe them in the application. These performance measures will be the mechanism to track progress concerning successful process and outcome strategies and will provide the basis for developing lessons to inform future recipients. It is expected that the description of performance measures will include the following:

Demonstrating analysis, experimental techniques and test methods or processes that lead to more efficient and clean engine and vehicle technologies. Evidence should be provided of collaboration with EPA on novel research, and in successful completion of undergraduate research and senior design projects.

The following are questions to consider when developing output and outcome measures of quantitative and qualitative results:

- i) What are the measurable short term and longer term results the project will achieve?
- ii) How does the plan measure progress in achieving the expected results (including outputs and outcomes) and how will the approach use resources effectively and efficiently?

D. Supplementary Information.

The statutory authority for this action is Clean Air Act, Section 103 (b)(3) which authorizes the award of grants for research, investigation, experiments, demonstrations, surveys and studies related to the causes, effects, extent, prevention and control of air pollution.

Demonstrations must involve new or experimental technologies, methods, or approaches, where the results of the project will be disseminated so that others can benefit from the knowledge gained in the demonstration project. A project that is accomplished through the performance of routine, traditional, or established practices, or a project that is simply intended to carry out a task rather than transfer information or advance the state of knowledge, however worthwhile the project might be, is not considered a demonstration project.

Implementation activities are not eligible for funding under this announcement.

II. AWARD INFORMATION

A. What is the amount of funding available?

The total estimated funding expected to be available for awards under this competitive opportunity is approximately \$300,000.

B. Partial Funding.

In appropriate circumstances, EPA reserves the right to partially fund applications by funding discrete portions or phases of proposed projects. If EPA decides to partially fund an application, it will do so in a manner that does not prejudice any applicants or affect the basis upon which the application was evaluated and selected for award, and therefore maintains the integrity of the competition and selection process.

C. How many agreements will EPA award in this competition?

EPA anticipates award of a single cooperative agreement of up to \$300,000 under this announcement subject to the availability of funds, quality of evaluated applications, and other applicable considerations. In addition, EPA reserves the right to make additional awards under this announcement, consistent with Agency policy, if additional funding becomes available after the original selections. Any additional selections for awards will be made no later than six months from the date of the original selections.

D. What is the project period for awards resulting from this solicitation?

The estimated project period for awards resulting from this solicitation will begin in August 2014. Proposed project periods may be up to 4 years.

E. Funding Type

The funding for selected projects will be in the form of a cooperative agreement. Cooperative agreements permit substantial involvement between the EPA Project Officer and the selected applicants in the performance of the work supported. Although EPA will negotiate precise terms and conditions relating to substantial involvement as part of the award process, the anticipated substantial Federal involvement for this project will be:

- close monitoring of the successful applicant's performance to verify the results proposed by the applicant;
- collaboration during performance of the scope of work;
- in accordance with 40 CFR 31.36(g), review of proposed procurement;
- approving qualifications of key personnel (EPA will not select employees or contractors employed by the award recipient);
- review and comment on reports prepared under the cooperative agreement (the final decision on the content of reports rests with the recipient).

III. ELIGIBILITY INFORMATION

A. Eligible Entities

In accordance with CFDA 66.037, applications will be accepted from states, local governments, territories, Indian tribes, and possessions of the U.S., including the District of Columbia, international organizations, public and private universities and colleges, hospitals, laboratories, and other public or private non-profit institutions.

Non-profit organization, as defined by OMB Circular A-122, located at 2 CFR Part 230, means any corporation, trust, association, cooperative or other organization that: (1) is operated primarily for scientific, educational, service, charitable or similar purposes in the public interest; (2) is not organized primarily for profit; and (3) uses its net proceeds to maintain, improve and/or expand its operations. Note that OMB Circular A-122 specifically excludes the following types of organizations from the definition of "non-profit organization" because they are separately defined in the Circular: (i) colleges and universities; (ii) hospitals; (iii) state, local and federally-recognized Indian tribal governments; and (iv) those non-profit organizations that are excluded from coverage of this Circular in accordance with paragraph 5 of the Circular. While not considered to be a "non-profit organization(s)" as defined by OMB Circular A-122, colleges and universities, hospitals, state, local

and federally-recognized Indian tribal governments are, nevertheless, eligible to submit applications under OMB Circular A-122 and this RFA.

For-profit organizations are not an eligible entity for this funding opportunity. Additionally, non-profit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act of 1995 are not eligible to apply.

B. Cost Sharing or Matching

No matching funds are required under this competition.

C. Threshold Eligibility Criteria

These are requirements that if not met by the time of application submission will result in elimination of the application from consideration for funding. Only applications from eligible entities (see above) that meet all of these criteria will be evaluated against the ranking factors in Section V of this announcement. Applicants deemed ineligible for funding consideration as a result of the threshold eligibility review will be notified within 15 calendar days of the ineligibility determination.

1.
 - a. Applications must substantially comply with the application submission instructions and requirements set forth in Section IV of this announcement or else they will be rejected. However, where a page limit is expressed in Section IV with respect to the narrative proposal, pages in excess of the page limitation will not be reviewed.

b. In addition, applications must be received by the EPA or through www.grants.gov, as specified in Section IV of this announcement, on or before the application submission deadline published in Section IV of this announcement. Applicants are responsible for ensuring that their application reaches the designated person/office specified in Section IV of the announcement by the submission deadline.

c. Applications received after the submission deadline will be considered late and returned to the sender without further consideration unless the applicant can clearly demonstrate that it was late due to EPA mishandling or because of technical problems associated with www.grants.gov. Where Section IV requires application receipt by a specific person/office by the submission deadline, receipt by an agency mailroom is not sufficient. Applicants should confirm receipt of their application with Tricia Bosler as soon as possible after the submission deadline—failure to do so may result in your application not being reviewed.
2. Applications must support EPA Strategic Plan Goal 1, ‘Taking Action on Climate Change and Improving Air Quality’. (*See Section I*)
3. Hard copy applications will only be accepted via an **express delivery service**. EPA will not accept applications submitted via e-mail, fax or standard 1st Class Mail delivery by the U.S. Postal Service.
4. Applicants must demonstrate how their proposed project addresses the requirements for both program components as described in I.B.

IV. APPLICATION AND SUBMISSION INFORMATION

A. How to Obtain an Application Package

Applicants can download individual grant application forms from EPA's Office of Grants and Debarment website at: <http://www.epa.gov/ogd/AppKit/application.htm> .

To obtain a hard copy of materials, please send an email or written request to the Agency contact listed in Section VII of this announcement.

B. Mode of Application Submission

Applicants have the following options to submit their applications: 1) Hard copy by express delivery service to the specified EPA contact below, or 2) electronically through grants.gov as explained in Appendix A.

Applications will not be accepted via fax, email, or standard 1st class mail delivery by the U.S. Postal Service. All applications must be prepared, and include the information, as described below in Section IV.C "Content of Application," regardless of mode of transmission.

1. Hard Copy Submission

Please provide one original application package (including signed and completed SF 424 and SF 424A forms) --no binders or spiral binding--to:

Hard Copy via Express Delivery (FedEx, UPS, DHL, USPS etc.)

U.S. Environmental Protection Agency
ATTN: Tricia Bosler
OAR/OTAQ/TATD-IO
2565 Plymouth Rd.
Ann Arbor, MI 48105
Phone: (734) -214 -4731

Hard Copy Application Submission Deadline

All hard copy application packages must be received by Tricia Bosler by April 14, 2014, 4:00 p.m. ET.

2. Grants.gov Submission (see Appendix A, Grants.gov Submission Instructions)

Application Submission Deadline: Your organization's authorized official representative (AOR) must submit your complete application electronically to EPA through Grants.gov (<http://www.grants.gov>) no later than **April 14, 2014, 4:00 p.m. ET**

C. Content of Application Package Submission

All application submissions, regardless of mode of submission, must contain completed and signed grant application forms, as well as a Narrative Proposal, as described below.

Grant Application Forms. Please be sure to include the organization fax number and email address in Block 5 of the Standard Form SF 424. The forms are available at <http://www.epa.gov/ogd/AppKit/application.htm>.

- Standard Form 424, *Application for Federal Assistance*
- Standard Form 424A, *Budget Information – Non-Construction Programs*
- Standard Form 424B, *Non-Construction Programs*
- Standard Form 6600-06, *Certification Regarding Lobbying*
- EPA Form 4700-4, *Pre-Award Compliance Review Report for All Applicants Requesting Federal Financial Assistance*
- EPA Form 5700-54, *Key Contacts Form*
- Narrative Proposal (**as described below**)

Narrative Proposal

The Narrative Proposal (**sections 1-3 below**) cannot exceed a maximum of 8 single-spaced typewritten pages, including the Summary Page. Supporting materials, such as resumes and letters of support, can be submitted as attachments and are not included in the 8 page limit.

1. **Summary Information Page** (recommended not to exceed one page)
 - a. Project Title
 - b. Applicant Information. Include applicant (organization) name, address, contact person, phone number, fax and e-mail address.
 - c. Funding Requested. Specify the amount you are requesting from EPA.
 - d. Total Project Cost. Specify total cost of the project. Identify funding from other sources, including cost share or in-kind resources.
 - e. Project period. Provide beginning and ending dates. (Projects are anticipated to begin date and end no later than date.)
 - f. DUNS number

2. Narrative Proposal Work-Plan

The narrative proposal work-plan must explicitly describe how the proposed project meets the guidelines established in Sections I-III of this announcement (including the threshold eligibility criteria in Section III.C) and must address each of the evaluation criteria set forth in Section V.

- a. **Project Summary/Approach:** The summary shall contain the following components:
 - i. Detailed project summary, description of specific actions and methods to be undertaken and the responsible institutions, including estimated time line for each task.
 - ii. Description of the associated work products to be developed.
 - iii. Explanation of project benefits to the public, and specifically the potential audience(s) served.
 - iv. Description of the roles of the applicant and partners, if any.
 - v. Description of the applicant's organization and experience related to the proposed

- project.
- vi. Description of staff expertise/qualifications, staff knowledge, and resources or the ability to obtain them, to successfully achieve the goals of the proposed project.
 - vii. Description of the applicant's approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner.
 - viii. Budget and estimated funding amounts for each work component/task.

***Selected applicant(s) will need to submit a copy of their current indirect cost rate that has been negotiated with a federal cognizant agency prior to award.**

b. Environmental Results—Outcomes, Outputs and Performance Measures

Identify the expected quantitative and qualitative outcomes and outputs of the project (**See Section I**), including what performance measurements or other means will be used to track and measure your progress towards achieving the expected outcomes and outputs and how the results of the project will be evaluated.

c. Programmatic Capability and Past Performance

Submit a list of federally funded assistance agreements (assistance agreements include Federal grants and cooperative agreements but not Federal contracts) similar in size, scope and relevance to the proposed project that your organization performed within the last three years (no more than 5 agreements, and preferably EPA agreements) and describe (i) whether, and how, you were able to successfully complete and manage those agreements and (ii) your history of meeting the reporting requirements under those agreements including whether you adequately and timely reported on your progress towards achieving the expected outputs and outcomes of those agreements (and if not, explain why not) and whether you submitted acceptable final technical reports under the agreements. In evaluating applicants under these factors in Section V, EPA will consider the information provided by the applicant and may also consider relevant information from other sources, including information from EPA files and from current/prior grantors (e.g., to verify and/or supplement the information provided by the applicant). If you do not have any relevant or available past performance or reporting information, please indicate this in the proposal and you will receive a neutral score for these factors (a neutral score is half of the total points available in a subset of possible points). If you do not provide any response for these items, you may receive a score of 0 for these factors.

3. Detailed Budget Narrative (See Appendix B, Budget Sample)

Clearly explain how EPA funds will be used. This section provides an opportunity for a narrative description of the budget found in the SF-424A. Applicants must itemize costs related to personnel, fringe benefits, contractual costs, travel, equipment, supplies, other direct costs, indirect costs, and total costs.

(OPTIONAL) Attachments. These are optional and are not included in the 8 page limit. Nor are these attachments considered during evaluation of an applicant's application.

a. Biographical Sketch. Provide resumes or curriculum vitae for all principal investigators and

- any other key personnel.
- b. Negotiated Indirect Cost Rate Agreement.**
 - c. Quality Assurance Narrative Statement.**
 - d. Support Letters**-These should indicate how the supporting organization will assist in the project.

D. Submission Dates and Times

The closing date and time for receipt of application submissions, regardless of mode of submission, is April 14, 2014 at 4:00 pm ET. All hard copies of application packages must be received by Tricia Bosler by April 14, 2014, 4:00 p.m. ET; electronic submissions via Grants.gov must be submitted to www.grants.gov by April 14, 2014, 4:00 p.m. ET. Applications received or submitted electronically after the closing date and time will not be considered for funding.

E. Additional Provisions for Applicants Incorporated into the Solicitation

Additional provisions that apply to this solicitation and/or awards made under this solicitation, including but not limited to those related to confidential business information, contracts and sub-awards under grants, and proposal assistance and communications, can be found at http://www.epa.gov/ogd/competition/solicitation_provisions.htm. These, and the other provisions that can be found at the website link, are important, and applicants must review them when preparing proposals for this solicitation. If you are unable to access these provisions electronically at the website above, please communicate with the EPA contact listed in this solicitation to obtain the provisions.

V. APPLICATION REVIEW INFORMATION

Only eligible entities whose application(s) meet the threshold criteria in Section III of this announcement will be reviewed according to the evaluation criterion set forth below. Applicants should explicitly address these criteria as part of their application package submittal. Each application will be rated under a points system, with a total of 100 points possible.

A. Evaluation Criteria

Criteria	Maximum Points Per Criterion
1. Project Summary/Approach: Under this criterion, the Agency will evaluate the following factors: (i) (25 pts) the extent and quality to which the narrative proposal includes a well-conceived strategy for addressing the requirements in Section I, Parts B (Scope of Work) and C (EPA Strategic Plan Linkage and Anticipated Outcomes/Outputs) , (ii) (10 pts) whether the narrative proposal sets forth a reasonable time schedule for the execution of the tasks associated with the project and for achieving the project goals and objectives by project end	35
2. Environmental Results—Outcomes, Outputs and Performance Measures: Under this criterion, the Agency will evaluate the effectiveness of the applicant's plan for tracking and measuring its progress toward achieving the expected project outputs and outcomes, including those identified in Section I of this announcement. In addition, the Agency will evaluate the performance measures proposed by the applicant and how they will be used to help track and measure the Applicants	10

progress towards achieving the expected outputs and outcomes.	
<p>3. Programmatic Capability and Past Performance: Under this criterion, applicants will be evaluated based on their ability to successfully complete and manage the proposed project taking into account their:</p> <p>I. (6 pts) past performance in successfully completing and managing the assistance agreements identified in the narrative proposal as described in Section IV.C of the announcement,</p> <p>II. (5 pts) history of meeting the reporting requirements under the assistance agreements identified in the narrative proposal as described in Section IV.C of the announcement including whether the applicant submitted acceptable final technical reports under those agreements and the extent to which the applicant adequately and timely reported on their progress towards achieving the expected outputs and outcomes under those agreements and if such progress was not being made whether the applicant adequately reported why not,</p> <p>III. (6 pts) organizational experience and plan for timely and successfully achieving the objectives of the proposed project,</p> <p>IV. (5 pts) staff expertise and qualifications, staff knowledge, and resources or the ability to obtain them, to successfully achieve the goals of the proposed project.</p> <p>Note: In evaluating applicants under items I and II of this criterion, the Agency will consider the information provided by the applicant and may also consider relevant information from other sources including agency files and prior/current grantors (e.g., to verify and/or supplement the information supplied by the applicant). If you do not have any relevant or available past performance or reporting information, please indicate this in the proposal and you will receive a neutral score for these sub-factors (items I and II above-a neutral score is half of the total points available in a subset of possible points). If you do not provide any response for these items, you may receive a score of 0 for these factors.</p>	22
<p>4. Budget: Under this criterion, the Agency will evaluate the proposed project budget to determine whether,</p> <p>I. (5 pts) costs are reasonable to accomplish the proposed goals, objectives, and measurable environmental outcomes,</p> <p>II. (3 pts) the proposed budget provides a detailed breakout of the approximate funding used for each major activity.</p> <p>An applicant's budget and budget narrative must account for both federal funds and any non-federal funds (e.g., any required or voluntary cost share/match if applicable). Applicants must precisely describe in their budget narrative how they will account for any required or voluntary cost share/match and what role EPA funding will play in the overall project.</p>	8

5. Expenditure of Awarded Grant Funds: Under this criterion, applicants will be evaluated based on their approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner.	5
6. Location: Under this criterion, the Agency will evaluate the applicant's plan and approach for ensuring that students in the program will be able to spend (either in person or remotely such as by video) extended periods of time performing research at NVFEL in Ann Arbor, MI, site of the EPA's compliance, regulation and advanced engine development activities, in order to successfully achieve the objectives of this announcement as described in Section I. In person participation will likely be evaluated more favorably than remote participation.	20

B. Review and Selection Process

Applications will first be evaluated against the threshold factors listed in Section III. Only those applications which meet all of the threshold factors will be evaluated using the evaluation criteria listed above by an EPA evaluation team. Each application will be given a numerical score and will be rank-ordered according to the numerical score. Preliminary funding recommendations will be provided to the Approving Official based on this ranking.

C. Other Factors

Final funding decisions will be made by the Approving Official based on the rankings and preliminary recommendations of the EPA evaluation team. In making the final funding decisions, the Approving Official may also consider programmatic priorities. Once final decisions have been made, a funding recommendation will be developed and forwarded to the EPA Award Official.

VI. AWARD ADMINISTRATION INFORMATION

A. Award Notices

Following evaluation of applications, all applicants will be notified regarding their status.

Application Notifications

1. EPA anticipates notification to successful applicants will be made via telephone or electronic or postal mail by May 15, 2014. The notification will be sent to the original signer of the application or the project contact listed in the application. This notification, which informs the applicant that its application has been selected and is being recommended for award, is not an authorization to begin work. The official notification of an award will be made by EPA GIAMD. Applicants are cautioned that only a grants officer is authorized to bind the Government to the expenditure of funds; selection does not guarantee an award will be made. For example, statutory authorization, funding or other issues discovered during the award process may affect the ability of EPA to make an award to an applicant. The award notice, signed by an EPA grants officer, is the authorizing document and will be provided through electronic or postal mail. The successful applicant may need to prepare and submit additional documents and forms (e.g., work plan), which must be approved by EPA, before the grant can officially be awarded. The time between notification of selection and award of a grant can take up to 90 days or longer.

2. EPA anticipates notification to *unsuccessful* applicant(s) will be made via email or postal mail. The notification will be made to the original signer of the Standard Form (SF) 424, Application for Federal Assistance.

B. Administrative and National Policy Requirement

A listing and description of general EPA Regulations applicable to the award of assistance agreements may be viewed at: http://www.epa.gov/ogd/AppKit/applicable_epa_regulations_and_description.htm.

Executive Order 12372, Intergovernmental Review of Federal Programs may be applicable to awards, resulting from this announcement. Applicants selected for funding may be required to provide a copy of their application to their **State Point of Contact** (SPOC) for review, pursuant to Executive Order 12372, Intergovernmental Review of Federal Programs. This review is not required with the Initial Application and not all states require such a review. A listing of State Point of Contacts (SPOC) may be viewed at: www.whitehouse.gov/omb/grants/spoc.html

C. Reporting Requirement

Quarterly progress reports and a detailed final technical report will be required. Quarterly reports summarizing technical progress, planned activities for next quarter and summary of expenditures are required. The final technical report shall be completed within 90 calendar days of the completion of the period of performance. The final technical report should include: summary of the project or activity, advances achieved and costs of the project or activity. In addition, the final technical report shall discuss the problems, successes, and lessons learned from the project or activity that could help overcome structural, organizational or technical obstacles to implementing a similar project elsewhere. The schedule for submission of quarterly reports will be established by EPA, after award.

D. Disputes

Assistance agreement competition-related disputes will be resolved in accordance with the dispute resolution procedures published in 70 FR (Federal Register) 3629, 3630 (January 26, 2005) which can be found at <http://www.epa.gov/ogd/competition/resolution.htm>. Copies of these procedures may also be requested by contacting Tricia Bosler at bosler.tricia@epa.gov.

E. Additional Provisions For Applicants Incorporated Into The Solicitation

Additional provisions that apply to this solicitation and/or awards made under this solicitation, including but not limited to those related to DUNS, SAM, copyrights, disputes, and administrative capability, can be found at http://www.epa.gov/ogd/competition/solicitation_provisions.htm. These, and the other provisions that can be found at the website link, are important, and applicants must review them when preparing proposals for this solicitation. If you are unable to access these provisions electronically at the website above, please communicate with the EPA contact listed in this solicitation to obtain the provisions.

VII. AGENCY CONTACTS

For further information, contact:

U.S. EPA, Office of Transportation and Air Quality

Attention: Tricia Bosler
2565 Plymouth Rd.
Ann Arbor, MI 48105
E-mail: bosler.tricia@epa.gov

All questions or comments must be communicated in writing via email to the contact person listed above. Questions and answers will be posted until the closing date of this announcement at the OAR Grants/Funding webpage: http://www.epa.gov/air/grants_funding.html.

VIII. Other Information (Appendices)

Appendix A. Grants.gov Submission Instructions

Grants.gov Application Instructions

The electronic submission of your application must be made by an official representative of your institution who is registered with Grants.gov and is authorized to sign applications for Federal assistance. For more information on the registration requirements that must be completed in order to submit an application through grants.gov, go to <http://www.grants.gov> and click on “Applicants” on the top of the page and then go to the “Get Registered” link on the page. If your organization is not currently registered with Grants.gov, please encourage your office to designate an Authorized Organization Representative (AOR) and ask that individual to begin the registration process as soon as possible. Please note that the registration process also requires that your organization have a DUNS number and a current registration with the System for Award Management (SAM) and the process of obtaining both could take a month or more. Applicants must ensure that all registration requirements are met in order to apply for this opportunity through grants.gov and should ensure that all such requirements have been met well in advance of the submission deadline. Registration on grants.gov, SAM.gov, and DUNS number assignment is FREE.

To begin the application process under this grant announcement, go to <http://www.grants.gov> and click on “Applicants” on the top of the page and then “Apply for Grants” from the drop down menu and then follow the instructions accordingly. Please note: To apply through grants.gov you must use Adobe Reader software and download the compatible Adobe Reader version. For more information about Adobe Reader, to verify compatibility, or to download the free software, please visit <http://www.grants.gov/web/grants/support/technical-support/software/adobe-reader-compatibility.html>

You may also be able to access the application package for this announcement by searching for the opportunity on <http://www.grants.gov>. Go to <http://www.grants.gov> and then click on “Search Grants” at the top of the page and enter the Funding Opportunity Number, EPA-OAR-OTAQ-14-01, or CFDA 66.037, in the appropriate field and click the Search button. Alternatively, you may be able to access the application package by clicking on the Application Package button at the top right of the synopsis page for the announcement on <http://www.grants.gov>. To find the synopsis page, go to <http://www.grants.gov> and click “Browse Agencies” in the middle of the page and then go to “Environmental Protection Agency” to find the EPA funding opportunities.

Application Submission Deadline: Your organization’s AOR must submit your complete application package electronically to EPA through Grants.gov (<http://www.grants.gov>) no later than April 14, 2014, 4:00 p.m. ET.

Please submit *all* of the application materials described below using the grants.gov application package that you downloaded using the instructions above. For additional instructions on completing and submitting the electronic application package, click on the “Show Instructions” tab that is accessible within the application package itself.

Application Materials

The following forms and documents are required under this announcement:

Mandatory Documents:

1. Application for Federal Assistance (SF-424)
2. Budget Information for Non-Construction Programs (SF-424A)
3. Assurances for Non-Construction Programs (SF-424B)
4. Grants.gov Lobbying Form
5. EPA Key Contacts Form 5700-54
6. EPA Form 4700-4 – Pre-award Compliance Review Report
7. Narrative Proposal (Project Narrative Attachment Form)-prepared as described in Section IV.C of the announcement

Optional Documents:

1. Other Attachment form - biographical Sketch. Provide resumes or curriculum vitae for all principal investigators and any other key personnel.
2. Other Attachments form - Negotiated Indirect Cost Rate Agreement.
3. Other Attachments form - Quality Assurance Narrative Statement.
4. Other Attachments form - Support Letters - These should indicate how the supporting organization will assist in the project.

If problems are encountered during the submission process, the AOR should reboot his/her computer before trying to submit the application package again. [It may be necessary to turn off the computer (not just restart it) before attempting to submit the package again.] If the AOR continues to experience submission problems, he/she may contact Grants.gov for assistance by phone at 1-800-518-4726 or email at <http://www.grants.gov/help/help.jsp> or contact bosler.tricia@epa.gov

Applications submitted through grants.gov will be time and date stamped electronically.

If you have not received a confirmation of receipt from EPA (not from grants.gov) within 30 days of the application deadline, please contact Tricia Bosler, at (734) 214-4731. Failure to do so may result in your application not being reviewed.

Appendix B. Budget Sample

Budget Detail

This section of the work plan is a detailed description of the budget found in the SF-424A, and must include a detailed discussion of how EPA funds will be used. Applicants must itemize costs related to personnel, fringe benefits, travel, equipment, supplies, contractual costs, other direct costs, indirect costs, and total costs.

Applicants should use the following instructions, budget object class descriptions, and example table to complete the Budget Detail section of the work plan.

- **Personnel - List all staff positions by title. Give annual salary, percentage of time assigned to the project, and total cost for the budget period.** This category includes only direct costs for the salaries of those individuals who will perform work directly for the project (generally, paid employees of the applicant organization). If the applicant organization is including staff time (in-kind services) as a cost share, this should be included as Personnel costs. Personnel costs do not include: (1) costs for services of consultants, contractors, consortia members, or other partner organizations, which are included in the “Contractual” category; (2) costs for employees of sub-recipients under sub-awards, which are included in the “Other” category; or (3) effort that is not directly in support of the proposed project, which may be covered by the organization’s negotiated indirect cost rate. The budget detail must identify the personnel category type by Full Time Equivalent (FTE), including percentage of FTE for part-time employees, number of personnel proposed for each category, and the estimated funding amounts.
- **Fringe Benefits - Identify the percentage used, the basis for its computation, and the types of benefits included.** Fringe benefits are allowances and services provided by employers to their employees as compensation in addition to regular salaries and wages. Fringe benefits include, but are not limited to the cost of leave, employee insurance, pensions and unemployment benefit plans.
- **Travel - Specify the mileage, per diem, estimated number of trips in-State and out-of-State, number of travelers, and other costs for each type of travel.** Travel may be integral to the purpose of the proposed project (e.g. inspections) or related to proposed project activities (e.g. attendance at meetings). Travel costs do not include: (1) costs for travel of consultants, contractors, consortia members, or other partner organizations, which are included in the “Contractual” category; (2) travel costs for employees of sub-recipients under sub-awards, which are included in the “Other” category.
- **Equipment - Identify each item to be purchased which has an estimated acquisition cost of \$5,000 or more per unit and a useful life of more than one year.** Equipment also includes accessories necessary to make the equipment operational. Equipment does not include: (1) equipment planned to be leased/rented, including lease/purchase agreement; or (2) equipment service or maintenance contracts. These types of proposed costs should be included in the “Other” category. Items with a unit cost of less than \$5,000 should be categorized as supplies, pursuant to 40 CFR 31.3 and 30.2. The budget detail must include an itemized listing of all equipment proposed under the project.
- **Supplies - “Supplies” means all tangible personal property other than “equipment”.** The budget detail should identify categories of supplies to be procured (e.g., laboratory supplies or office supplies). Non-tangible goods and services associated with supplies, such as printing service, photocopy services, and rental costs should be included in the “Other” category.
- **Contractual - Identify each proposed contract and specify its purpose and estimated cost.** Contractual/consultant services are those services to be carried out by an individual or organization, other than the applicant, in the form of a procurement relationship. Leased or rented goods (equipment or supplies) should be included in the “Other” category. The applicant should list the proposed contract activities along with a brief description of the scope of work or services to be provided, proposed duration, and proposed procurement method (competitive or non-competitive), if known.

- **Other - List each item in sufficient detail for EPA to determine the reasonableness and allowability of its cost.** This category should include only those types of direct costs that do not fit in any of the other budget categories. Examples of costs that may be in this category are: insurance, rental/lease of equipment or supplies, equipment service or maintenance contracts, printing or photocopying, rebates, and sub-award costs. Sub-awards (e.g., sub-grants) are a distinct type of cost under this category. The term “sub-award” means an award of financial assistance (money or property) by any legal agreement made by the recipient to an eligible sub-recipient. This term does not include procurement purchases, technical assistance in the form of services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, interest subsidies, insurance, or direct appropriations. Subcontracts are not sub-awards and belong in the contractual category. Applicants must provide the aggregate amount they propose to issue as sub-award work and a description of the types of activities to be supported.
- **Indirect Charges - If indirect charges are budgeted, indicate the approved rate and base.** Indirect costs are those incurred by the grantee for a common or joint purpose that benefit more than one cost objective or project, and are not readily assignable to specific cost objectives or projects as a direct cost. In order for indirect costs to be allowable, the applicant must have a federal or state negotiated indirect cost rate (e.g., fixed, predetermined, final or provisional), or must have submitted a proposal to the cognizant Federal or State agency. Examples of Indirect Cost Rate calculations are shown below:
 - Personnel (Indirect Rate x Personnel = Indirect Costs)
 - Personnel and Fringe (Indirect Rate x Personnel & Fringe = Indirect Costs)
 - Total Direct Costs (Indirect Rate x Total direct costs = Indirect Costs)
 - Direct Costs minus distorting or other factors such as contracts and equipment
(Indirect Rate x (total direct cost – distorting factors) = Indirect Costs)

Example Budget Table

	EPA Funding	**Cost-Share
Personnel		
(1) Project Manager @ \$40/hr x 10 hrs/week x 52 wks		\$20,800
(3) Project Staff @ \$25/hr x 40 hrs/week x 40 wks	\$120,000	
TOTAL PERSONNEL	\$120,000	\$20,800
Fringe Benefits		
20% of Salary and Wages	20%(120,000)	20%(20,800)
- Retirement, Health Benefits, FICA, SUI	\$24,000	\$4,160
TOTAL FRINGE BENEFITS	\$24,000	\$4,160
Travel		
Travel for Project Manager and staff: 500 mi/mo @ \$0.55/mi x 12 mos.	\$3,300	
TOTAL TRAVEL	\$3,300	
Equipment		
TOTAL EQUIPMENT	0	
Supplies		

Office and related supplies to support training	\$10,000	
TOTAL SUPPLIES	\$10,000	
Contractual		
Support Services Contract	\$20,000	
TOTAL CONTRACTUAL	\$20,000	
Other		
TOTAL OTHER	\$0	
Indirect Charges		
Federal Negotiated Indirect Cost Rate = 10% (Indirect Rate x Personnel = Indirect Costs)	\$12,000	
TOTAL INDIRECT	\$12,000	
TOTAL FUNDING	(fed) \$189,300	(non-fed)\$24,960
TOTAL PROJECT COST (federal and non-federal)	\$214,260	

** Cost-Share funds, while not required under this RFA, must also be included on the SF-424A as detailed in Section III.B of this RFA.

Note on Management Fees: When formulating budgets for proposals, applicants must not include management fees or similar charges in excess of the direct costs and indirect costs at the rate approved by the applicant's cognizant Federal audit agency, or at the rate provided for by the terms of the agreement negotiated with EPA. The term "management fees or similar charges" refers to expenses added to the direct costs in order to accumulate and reserve funds for ongoing business expenses, unforeseen liabilities, or for other similar costs that are not allowable under EPA assistance agreements. Management fees or similar charges cannot be used to improve or expand the project funded under this agreement, except to the extent authorized as a direct cost of carrying out the work plan.