

United States Department of Transportation  
Federal Aviation Administration  
Grants for Aviation Research  
<http://www.tc.faa.gov/logistics/grants>  
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## **Federal Aviation Administration (FAA) MISSION**

The FAA mission is to ensure the safe and efficient use of the navigable airspace in the United States; to regulate air commerce in such a manner as to best promote its development and safety; to promote a common system of air traffic control and navigation for both military and civil aircraft; and to promote, encourage, and develop civil aeronautics. This mission is further explained in the FAA Flight Plan for 2009-2013, which contains FAA strategic goals and the Next Generation Air Transportation System Integrated Plan, coordinated by the Joint Planning and Development Office (JPDO), a joint effort by the FAA, National Aeronautics and Space Administration (NASA), and the Departments of Defense.

The FAA Aviation Research Grants Program is one means by which the FAA supports this mission. Research grants and cooperative agreements, which range from several thousand to several million dollars, support aviation-related research in topics with the potential to gain further knowledge in emerging aviation technologies.

As the leading authority in the international aviation community, the FAA is responsive to the dynamic nature of customer needs, economic conditions, and environmental concerns. Our organization and members of other organizations within the Department of Transportation, which administer research grants, have made a commitment to excellence by identifying customer needs and setting customer service standards.

### **CUSTOMER SERVICE STANDARDS**

In response to our customer's major areas of concern we have implemented the following customer service standards:

- WHEN YOU CALL US WITH A QUESTION ABOUT AVIATION RESEARCH GRANTS, YOU WILL GET A RESPONSE NO LATER THAN THE CLOSE OF THE NEXT BUSINESS DAY.
- TO PROVIDE YOU WITH MORE OPPORTUNITIES TO LEARN OF AVAILABLE AVIATION RESEARCH GRANT FUNDING, WE WILL POST NOTICES OF SPECIAL ANNOUNCEMENTS AND OUR OPEN SOLICITATION AT BOTH OUR GRANTS WEBSITE AT [HTTP://WWW.TC.FAA.GOV/LOGISTICS/GRANTS](http://www.tc.faa.gov/logistics/grants) AND AT [HTTP://WWW.GRANTS.GOV](http://www.grants.gov)
- WE WILL HELP YOU ACCESS FAA'S TECHNICAL EXPERTISE DURING YOUR RESEARCH.
- WE WILL EXHIBIT OUR TRUST BY NOT MICROMANAGING YOUR RESEARCH GRANTS.
- WE WILL REQUIRE TECHNICAL PROGRESS REPORTS ON AVIATION RESEARCH GRANTS NO MORE FREQUENTLY THAN SEMIANNUALLY. HOWEVER, COOPERATIVE AGREEMENTS MAY HAVE VARIOUS REPORTING REQUIREMENTS.
- WE WILL REDUCE YOUR PAPERWORK BURDEN WHEN APPLYING FOR AN AVIATION RESEARCH GRANT BY REQUIRING PROPOSAL SUBMISSIONS THROUGH THE GRANTS.GOV SITE MENTIONED ABOVE.

- WE WILL EXAMINE OUR PROCESS CONTINUALLY WITH INPUT FROM YOU, OUR CUSTOMERS, FOR CONTINUED IMPROVEMENTS.

## **CHAPTER I. THE FEDERAL AVIATION ADMINISTRATION (FAA) AVIATION RESEARCH GRANTS PROGRAM**

The FAA is soliciting proposals for research grants and cooperative agreements to pursue the long-term growth and short-term technical needs of civil aviation.

### **Authorizing Grants Legislation**

The FAA is authorized to award grants and cooperative agreements under the following legislation: Section 9205, Aviation Research Grant Program, and Section 9208, Catastrophic Failure Prevention Research Program, of the Federal Aviation Administration, Research, Engineering, and Development Authorization Act of 1990 (Public Law (P.L.) 101-508).

### **Technical Areas of Research**

The FAA Research Grants Program encourages and supports innovative, advanced research of potential benefit to the long-term growth of civil aviation and Commercial Space Transportation. The pursuit of basic and applied research in scientific and engineering disciplines that have the potential to further knowledge and understanding on a broad front of emerging technologies is crucial to the realization of this goal. The intent is to encourage applied research and development to enhance technology assimilation, transfer, and development in the FAA. The Research Grants Program does not require the immediate application to Research, Engineering, and Development (R,E&D) programs, although this may occur in some cases. The agency encourages the submission of proposals that embrace the entire spectrum of physical, chemical, biological, medical, psychological, mathematical, and engineering sciences.

The authorizing legislation that supports the Research Grants Programs covers two general categories: a) areas deemed by the Administrator to be required for the long-term growth of civil aviation; and b) areas related to research on the prevention of catastrophic failures. These specific areas of interest may be found within the broad program areas identified in the FAA R,E&D Plan, which comprises the agency's research and development initiatives. These areas, which contribute to the FAA mission of improving aviation safety, capacity, efficiency, and security, are:

1. Capacity and Air Traffic Control Technology
2. Communications, Navigation, and Surveillance
3. Aviation Weather
4. Airports
5. Aircraft Safety Technology
6. Human Factors and Aviation Medicine
7. Environment and Energy
8. Systems Science/Operations Research
9. Commercial Space Transportation

The following more detailed descriptions of these program areas illustrate topics of interest to those who may consider applying for a grant.

1. Capacity and Air Traffic Control Technology. This area represents the FAA's effort to improve the capacity of the airspace while maintaining high safety standards. The primary goal is to increase the capacity and use of airspace and airport resources in a safe manner through automation of enroute and terminal air traffic control (ATC) and flow management. Successful implementation of the results of this research will reduce delays and enable as many aircraft as possible to operate on their preferred flight trajectories. Major areas of interest include research in advanced cockpit technologies and the development of automation tools for ATC in enroute and terminal airspace, and on the airport surface.

2. Communications, Navigation, and Surveillance. The principal initiatives of these areas are the development, standardization, and application of equipment required for air traffic services. The FAA's goals are to exploit emerging technologies in order to provide cost-effective services and equipment that have high levels of reliability, availability, and coverage. In particular, satellite based applications are paramount for the continuing modernization of the National Airspace System (NAS).

3. Aviation Weather. Weather is, and will continue to be, a critical factor in all flight operations. Inclement weather is the single largest contributor to delays and a major factor in aircraft accidents and incidents. Weather service users encompass the entire spectrum of the aviation community, from general aviation to large air transport operators. An overall system is required that includes the acquisition of a wide variety of weather data, analysis, and forecasting based on ATC and pilot needs. The key is the ability of the system to quickly and efficiently communicate appropriate weather data to the controller and the pilot. Activities in the weather area include airborne wind shear detection equipment, hazardous weather cell detection and warning, and improved forecasting of winds, turbulence, etc., to support air traffic management automation.

4. Airports. Agency efforts in this area target a multiplicity of issues comprising the physical and environmental aspects of airports. Efforts in airport standards and guidelines address the design, construction, operation, and maintenance of airports. Specific considerations are: airport layout and geometrics; pavements, airport pavement design, construction, evaluation and assessment of pavement roughness, terminal buildings, and heliports; fire fighting and rescue equipment; runway friction; snow and ice control; surface lighting and visual guidance aids; bird and wildlife control; runway surface contamination detection and removal; and environmental impacts of aircraft operations. Landside capacity is also addressed through such considerations as highway systems, pedestrian systems, parking, and mass transit access.

5. Aircraft Safety Technology. One of the primary responsibilities of the FAA is to provide safety and regulatory oversight in the certification, manufacture, maintenance and operation of U.S. civil aircraft. Changes in technology, aircraft fleet composition, and aircraft operational profiles, along with increased commercial traffic, resulting in corresponding needs for new or updated safety enhancements and requirements. The research goal in the Aircraft Safety Technology Program is to develop and transfer of new technologies that can provide needed safety enhancements and establish minimum safety requirements. These technologies, in turn, can be applied to improving safety standards that govern civil aircraft airworthiness and operational performance. Major safety research activities include: fire research and cabin safety, structural safety/advanced materials, propulsion systems research, flight safety/structural safety/advanced materials, propulsion systems research, flight/atmospheric

hazards, aging aircraft/continued airworthiness (structural integrity; maintenance and inspection), aircraft catastrophic failure prevention, aviation safety risk analysis, and Unmanned Aircraft Systems (UAS) Research. UAS research could include UAS Command, Control, and Communication (C3) research; UAS Detect, Sense, and Avoid (DSA) Technology Research; and UAS Flight Termination/Recovery Research.

6. Human Factors and Aviation Medicine. Research addresses the effects of new and modified aviation technologies and procedures on human performance that will lead to recommendations in support of rulemaking, regulatory guidance, and operating limitation for the flight deck. Research provides recommended requirement for flight deck, air traffic control, and maintenance (technical Operations system design; recommendations regarding human selection, training and staffing of air traffic control and maintenance (Technical Operations) support facilities. Research in this area also leads to standards and recommendations for crew and passenger protective equipment and procedures, and identifies crew and passenger limitations that may jeopardize the safety of the occupants and the aircraft. Areas of research include human tolerance and behavior under decelerative stresses, hypoxia, visual degradation, and various medicinal and non-medicinal chemicals; occupant behavior is evaluated under both secondary and emergency evacuation conditions.

7. Environment and Energy. This area represents the FAA's efforts to improve regulatory standards for sources of air and noise pollution, and to develop better technologies for predicting, measuring, and abating the environmental impact of emissions. Projects in this area support national goals to protect the environment and keep the transportation industry strong and competitive. R,E&D goals are technology improvements that address environmental and regulatory issues such as noise abatement, aircraft pollution, and improved certification of clean, quiet, fuel efficient aircraft.

8. Systems Science/Operations Research. The importance of Systems Science and Operations Research to the National Airspace System has come to be magnified in recent years. The macroscopic tools of mathematical modeling, simulation, decision support systems and prototyping, as well as optimization, are playing a greater role in research related to the NAS. In some cases, this will involve new paradigms implemented as novel algorithms and software packages. In other cases, innovative computational platforms and architectures may emerge as major contributors. The goal of research in all facets of this technical area is common: the improvement of the safety, security, capacity, and efficiency of the NAS.

9. Commercial Space Transportation. The primary responsibility of the Office of the Associate Administrator for Commercial Space Transportation (AST) is to regulate commercial launch activities in order to protect the public health, safety of property, and national security and foreign policy interests of the United States. The U.S. commercial space transportation industry is growing and becoming more diverse. The industry includes both small and large companies launching traditional Expendable Launch Vehicles (ELVs) as well as newly developed reentry vehicles and air-launched rockets. Presently, the industry is developing Reusable Launch Vehicles (RLVs) that have the potential to become the primary launch vehicles for the 21st century. The safety of these new launch vehicles (expendable, reusable, air and sea launch systems) are bringing a host of issues to the forefront that must be addressed. Some of the major issues the commercial space industry and Government policy makers must deal with as the industry develops during the rest of this decade and into the next century are:

- o The viability of new U.S. and foreign vehicle technologies;

- o safety and orbital debris problems as new satellite constellations are deployed;
- o international liability for joint U.S./foreign launch service providers;
- o coordination of reusable launch vehicle operations within the air traffic control system; and,
- o innovative means of leveraging private investment into improvements in launch vehicles and facilities.

Research that supports the planning and implementation of results that address the growing needs of this evolving industry will greatly assist in improving launch capacity, reduce operating costs and improve the international competitiveness of the industry.

### **Eligibility**

The eligibility of applicants for the award of a research grant varies depending upon the nature of the proposer's organization as well as the character of work one proposes to perform. In general, colleges, universities, and other non-profit research institutions are eligible to qualify for research grants in all specified areas. FAA is seeking to ensure an equitable geographic distribution of grant funds and the inclusion of Historically Black Colleges and Universities (HBCU's), Hispanic Serving Institutions (HSIs), and other minority institutions for funding consideration.

## **CHAPTER II. PREPARATION OF PROPOSALS**

The FAA welcomes submission of proposals that support fields of science, engineering, aviation medicine, and human factors with potential relevance to the long-term growth of civil aviation as described in the previous chapter. **Proposals for education, training, or airport development are not supported under this program.**

### **The Proposal**

Prior to writing your proposal, you should determine if it is appropriate to be considered for award as a grant or cooperative agreement or is it really more appropriate to be awarded as a contract. To assist you in this decision, first determine the principal purpose of your proposal. A grant is used when the principal purpose of the research is to assist in accomplishing public purposes. A cooperative agreement is used if the purpose of the research is to assist in accomplishing public purposes and the institution and the FAA determine that a high degree of involvement by the FAA would benefit the research objective. When the principal purpose is to make acquisitions for direct use of the Federal Aviation Administration (FAA), the method of funding shall be a procurement contract and should not be submitted to this office for consideration.

Submission of a proposal is the starting point for formally requesting grant assistance on the part of the institution. It should present the merits of the proposed project clearly and should be prepared with the care and thoroughness of a paper submitted for publication. Sufficient information should be provided so that reviewers will be able to evaluate the proposal in accordance with the criteria specified in Chapter III. The responsibility for proper attribution and citation rests with authors of a research proposal. Failure to adhere to such standards can result in disqualification of the proposal.

## **Cost Sharing**

Cost sharing represents the portion of project or program costs not borne by the Federal Government. The FAA expects that grantees will share in the costs at a level that reflects their interest in the research, the potential benefits they may derive, and their ability to share in the cost of the project. The potential grantee may contact the appropriate FAA organization in determining levels of cost sharing prior to submitting a proposal. A cost share offer by a prospective grantee may be a significant factor in FAA's funding decision. If a proposal is submitted without a cost sharing intent, the grants analyst may contact the institution to negotiate a level of cost share. Cost sharing responsibilities are assumed by the grantee upon acceptance of the grant.

For further information concerning cost sharing, please refer to Office of Management and Budget (OMB) Circular A-110, Uniform Administrative Requirements For Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations. This circular may be reviewed at <http://www.omb.gov>.

## **Who May Submit**

Formal rules for eligibility are contained in Chapter I. Scientists, engineers, mathematicians, psychologists, physicians, educators and other faculty members usually initiate research proposals that are submitted by their employing organizations. The categories of applicants are as follows:

1. Colleges and universities desiring to conduct research in any of the program areas described in this solicitation.
2. Other nonprofit organizations (such as independent museums; observatories; research laboratories; hospitals; consortia; professional, scientific and educational associations or societies; and similar organizations) may also apply for research grants in any of the program areas described in this solicitation.

The FAA will not provide a profit with the award of a grant to these institutions. The institutions are subject to the following requirements:

- a. The grantee will be subject to a Defense Contract Audit Agency audit of their costs and accounting systems.
- b. The grantee will be subject to AMS T3.3.2 - Contract Cost Principle  
Contract Cost Principles- 2: Contracts with Commercial Organizations.

## **When to Submit**

Proposals may be submitted at any time under the open FAA solicitation number FAA-12-01. This solicitation will remain open until December 31, 2019. Applicants should allow at least 90 days for review and processing.

## Where to Submit

Due to the President's Management Agenda, the FAA is requiring that all proposals be submitted electronically through <http://www.grants.gov>. The FAA solicitation mentioned above can be located under "Find" and you may access the application package under "Apply." The application package contains all the required forms. Before using Grants.gov for the first time, each organization must register and create an institutional profile at the Grants.gov site. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov Apply website.

Proposals submitted in response to the FAA via Grants.gov should be prepared and submitted in accordance with the guidance contained in this solicitation and FAA Order 9550.7A, located at <http://www.tc.faa.gov/logistics/grants>. Since the FAA Order is being updated, please disregard information that may conflict with guidance on the Grants.gov website. Follow the guidance on Grants.gov if there is a conflict.

Once the proposal is submitted to Grants.gov it will be downloaded to the Research Grants Program Office for processing.

## What to Submit

When applying through Grants.gov, you will be required to submit information on various forms that make up a template. The following is a more detailed description of the form content.

1. SF 424 R&R. This is the application for Federal assistance. It includes specific applicant information, proposed project information, estimate of project funding and duration and an electronic signature by the Authorizing Organizational Representative certifying that all statements are true and complete.

2. Research and Related Budget. The forms associated with the proposed budget request information about senior/key person and other personnel. It also requires information about direct and indirect costs. A form for each budget period and a cumulative budget are requested.

The information reported should be detailed and sufficient to allow an analysis by appropriate FAA personnel to make a determination that the budgeted costs are necessary to perform the work, reasonable, and not specifically precluded by program guidelines, law, or regulation. All applicable line items must be completed. Each year of support (budget period) requires a completed form. Also a cumulative budget is required to reflect what is requested for the full-term of FAA support. A budget narrative should be attached that explains and clarifies those items included on the budget forms (i.e., travel, equipment, personnel costs, etc.). Cost sharing intent should not be reflected on the budget forms. Please include cost sharing information in the attached budget narrative.

3. Research and Related Senior/Key Person Profile. This form requests information about the Principal Investigator (PI) and Co-Investigators. Biographical sketches can be attached at this time. A short biographical sketch of senior personnel and a list of their principal publications during the past 5 years, including those in pre-publication, shall be provided.



Information pertaining to current and pending support may also be attached here. This info could include FAA funding that the Principal Investigator(s) has received during the past 5 years. The information could include: (1) the project title; (2) the amount of funding; (3) the period of support; (4) a summary of the project; and (5) results obtained.

Applicants shall identify all current project support from whatever source(s) (i.e., Federal, State, or local Government agencies, private foundations, industrial or other commercial organizations). It should include the proposed project and all other projects requiring a portion of the time of the PI and all other senior personnel, even if they receive no salary support from the project(s). The number of person-months or percentage of effort to be devoted to the projects must be stated regardless of source of support. Similar information must be provided for all proposals that are being considered or soon to be submitted to other possible sponsors, including the FAA.

If the project now being submitted has been funded previously by a source other than the FAA, the information requested in the paragraph above should be furnished for the immediately preceding funding period.

If the proposal is being submitted to other possible sponsors all of them should be listed. Concurrent submission of a proposal to other organizations will not prejudice its review by the FAA.

4. Research and Related Other Project Information. This form requests information about human subjects, vertebrate animals, etc. You may also attach your bibliography and project summary/abstract here. **It would be greatly appreciated if you would notate in the Summary those person(s) contacted at the FAA Program Office.** Concerning the Summary, the proposal should contain a 200-300 word summary of the proposed activity suitable for publication. It should be a self-contained description of the activity that would result if the proposal is funded by the FAA. Include a statement of objectives, methods to be employed, and the significance of the proposed activity to the advancement of knowledge and FAA research areas. It should be informative to individuals working in the same or related fields and, insofar as possible, be understandable to a scientifically literate reader. Please refrain from using contract terminology, such as statement-of-work and deliverables. For the sake of confusion, we would appreciate terms such as description of work, results, etc.

With respect to the Project Description the main body of the proposal shall be a detailed statement of the work and shall include: (1) objectives for the period of the proposed work and expected significance; (2) relation to the longer term goals of the investigator's project; and (3) relation to the present state of knowledge in the field, to work in progress by the investigator under other support, and to work in progress elsewhere.

The statement shall outline the general plan of work, including the broad design of activities, an adequate description of experimental methods and procedures and, if appropriate, plans for preservation, documentation, and sharing of data, samples, physical collections, and other related research products. The proposal shall provide a full description of the proposed program supported by calculations, if appropriate. The main field of investigation and its relevance to the needs of the FAA shall be identified.

The proposal should be specific and not simply address the language of the solicitation. A scientifically valid plan addressing the goals of the effort and their significance to the safety and security of the flying public, along with checkpoints for intermediate success is highly

recommended. The relation of the work to the present state-of-the-art should be described. The work should be of a level of quality that publication in whole or in part in scientific or technical journals might reasonably be expected.

Brevity will assist reviewers and the FAA staff in dealing effectively with proposals; therefore, the **project description shall not exceed 15 single-spaced pages (or 30 double-spaced pages)**. Appended information may not be used to circumvent the page limit on the length of the proposal's project description. Extraneous appendices will not be sent to reviewers.

Regarding the Bibliography, pertinent literature shall be provided. Proper attribution practice requires that all citations be complete.

5. Research and Related Project/Performance Site Location(s). This form requests information pertaining to sites where the actual work will be performed.

6. Research and Related Personal Data. This form requests information, which is voluntary, in order to identify and address inequities based on gender, race, etc.

7. Disclosure of Lobbying Activities. This form requests information pertaining to lobbying activities, if any.

8. Indirect Cost Agreement. A copy of the latest institutional indirect cost agreement negotiated with the institution's cognizant Federal audit agency (Health and Human Services, Department of Defense or other), currently in force should be attached. The applicant will assure that the costs that the FAA is being asked to support are allowable and that the treatment of direct or indirect costs in the budget is consistent with applicable Federal cost principles and with the policies of the submitting organization.

**SAMPLE TRAVEL BREAKDOWN****(Please include the purpose of each trip)****YEAR 1**

10 - 2 Person, 2 day trips: Huntsville, AL/ Auburn, AL

500 miles @ \$.28/mi	\$140		
Per Diem 71x2x2	284		
	424 x 10		\$4,240.00

10 - 1 Person, 2 day trips: Huntsville, AL/ Auburn, AL

500 miles @ \$.28/mi	\$ 140		
Per Diem 71x2	142		
	282 x 10		\$2,820.00

4 - 1 Person, 2 day trips: Huntsville, AL/ Atlantic City, NJ

Air Fare	\$672		
Car Rental	50		
Per Diem 145x2	290		
	1012 x 4		\$4,048.00

4 - 2 Person 2 day trips: Huntsville, AL/ Atlantic City, NJ

Air Fare 672x2	\$1,344		
Car Rental 50x2	100		
Per Diem 145x2x2	580		
	2,024x4		\$8,096.00

	<b>TOTAL TRAVEL FOR YEAR 1</b>	<b>\$19,204.0</b>
<b>YEAR 2</b>		
10 - 2 Person, 2 day trips: Huntsville, AL/Auburn, AL		
500 miles @ \$.28/mi	\$140	
Per Diem 75x2x2	300	
	440 x 10	\$4,400.00
10 - 1 Person, 2 day trips: Huntsville, AL/Auburn, AL		
500 miles @ \$.28/mi	\$140	
Per Diem 75x2	150	
	290 x 10	\$2,900.00
4 - 1 Person, 2 day trips: Huntsville, AL/Atlantic City, NJ		
Air Fare 672	672	
Car Rental 53x2	106	
Per Diem 152x2	304	
	1082x4	\$4,328.00
4 - 2 Person, 2 day trips: Huntsville, AL/Atlantic City, NJ		
Air Fare 672x2	\$1344	
Car Rental 53x2	106	
Per Diem 152x2	304	
	1754x4	\$7,016.00
	<b>TOTAL TRAVEL FOR YEAR 2</b>	<b>\$18,644.00</b>

Whenever possible, the proposal should specify the manufacturer and model number. The organization's contribution to the cost of equipment, or its willingness to support the cost of construction or renovation of needed facilities may be considered by the FAA as an indication of the organization's commitment to the project. As stated previously, the FAA does not entertain proposals that are submitted solely for the purchase of equipment or construction of facilities.

The Omnibus Trade and Competitiveness Act of 1988 requires Federal agencies to use the metric system in procurement, grants, and other business-related activities. Proposals for grants and cooperative agreements submitted to the FAA are required to use the metric system of weights and measures. Likewise, reports, publications, and communiques regarding proposals will be required to use metric units.

### **CHAPTER III. PROPOSAL PROCESSING AND REVIEW**

Research proposals received will be assigned a proposal number and the grants staff will either mail or e-mail an acknowledgment to the institution. Each proposal will be reviewed by the grants staff to ensure that it is in the required format, that all relevant information has been submitted, that it satisfies the conditions of a grant, and that the proposed research falls under FAA research grant authority. After an initial administrative review, the proposal will be reviewed carefully for technical merit by a technical evaluation team. The team will consist of three or more technically qualified people, some of whom may be reviewers from outside the Government. Non-disclosure forms are signed by reviewers. An FAA representative will be designated as the team leader and is responsible for developing an overall rating based on the ratings of the team members. Subsequent to the technical evaluation, a determination regarding award will be made at the appropriate FAA management level.

#### **Evaluation Criteria**

The FAA has established four criteria against which each proposal will be evaluated in order to determine whether it will be eligible for funding. Failure to meet any one of the criteria may result in the proposal being judged ineligible. The criteria and a brief explanation of each are listed below.

1. Intrinsic Value. This is the likelihood that the proposed research will lead to new discoveries or fundamental advances within a specific field of science or engineering or have substantial impact on progress in that field or in other scientific or engineering fields pertinent to FAA research. The introduction of new ideas or innovative approaches will be viewed positively.
2. Relevance to FAA Mission. This is the establishment of a logical connection and probable application to the long-term growth of civil aviation.
3. Technical Soundness of the Proposal. This is the quality of the overall approach proposed to verify concepts or apply new technologies. The proposal must be formulated in a clear and logical fashion, utilizing known scientific principles and their extensions to reach a definable, substantial, and relevant goal.

4. Research Performance Competence. This is the capability of the organization (personnel and resources) to carry on successful work. The grantee should identify specific resources that are required and note whether adequate access to these will exist or whether they will be acquired in the course of the proposed activity. Achievements will be considered in evaluating performance competence. The Principal Investigator should demonstrate an established reputation in the relevant field. Such reputation may be shown by publications, patents, conference contributions, or any other relevant information that demonstrates his or her capability to advance the state of knowledge in the proposed area.

### **Eligible Proposals**

Each eligible proposal will be rated as either a category A, B, or C proposal. These categories will be used to differentiate the proposals according to technical merit.

1. A Category A proposal will have met the evaluation criteria with no distinction.
2. A Category B proposal will have met the evaluation criteria with distinction in one or more of the criteria.
3. A Category C proposal will have met each of the evaluation criteria with distinction and presents a strong, well-constructed program in all respects.

### **Revisions to Proposals**

The technical evaluators may determine a proposal is eligible for grant award but that certain changes would need to be made to support technical areas of research critical to the FAA mission. These changes are not intended to alter the basic direction or scope of the proposal. Changes may be made to remove, add, or redirect specific areas of research in the proposal. They may conclude certain proposed activities in the application are unnecessary and will recommend deleting them and their associated costs prior to the award. The Grants Analyst will contact the applicant's PI or appropriate Contract/Grants Officer depending on the type of issues that need to be negotiated. If costs appear excessive in the applicant's budget submission, recommended additions or deletions in the proposal will be negotiated. If such changes occur, an appropriate proposal modification (which may include a revised proposal budget) must be submitted to the Grants Analyst to incorporate in the proposal file.

In a time of increasing budget cuts, cost-sharing is very important to the FAA. The Grants Analyst who negotiates your award will encourage you to share in the cost of the research. This could be a percentage of the overall costs or overhead rates, providing facilities, not charging for key personnel salaries or other direct costs. Use your imagination, all suggestions are welcome.

### **Declined Proposals**

A proposal may be declined for a variety of reasons. The proposal may be incomplete, inappropriate for FAA consideration, may not meet the criteria established for technical merit, or funds may not be available. The applicant will be notified in writing by the Grants Officer advising why the proposal has not been accepted for award.

## Withdrawal

A proposal may be withdrawn by the submitting organization at any time before an award is made. The request for withdrawal should state the reason and be signed by the PI. This information can also be e-mailed to the Research Grants Program Office. E-mail addresses of all Grant Analysts and the Grants Officer are located at <http://www.tc.faa.gov/logistics/grants>.

## CHAPTER IV. GRANT SPONSORSHIP/FUNDING

Research grants and cooperative agreements are primarily funded by program offices to support research targeted to their program areas.

Since various FAA R,E&D Program Managers (i.e., Aging Aircraft, Aviation Medicine, etc.), will review the proposal and provide funds for award from their project accounts, **it is in the interest of the proposer to make contact with the appropriate manager in order to come to an understanding regarding the needed research.** Applicants are strongly encouraged to participate in a two-way communication to define the scope of work. This can only enhance the likelihood of securing sponsorship and improve the probability of project success, and is strongly encouraged on the part of applicants.

## CHAPTER V. GRANT AWARD AND ADMINISTRATION

### Types of Grants

A standard grant is a grant in which FAA agrees to support a level of effort for a specified period of time, usually for a minimum of 1 year.

A continuing grant is an agreement to support a level of effort for a specified period of time, usually for a minimum of 1 year, with a statement of intent to provide additional support of the project for additional period(s) provided funds are available and the results achieved warrant further support.

Cooperative agreements are a variant of either of the above vehicles in which there is substantial interaction and collaboration anticipated between the grantee and the Government in the performance of the grant.

### Grant Award

The grant award instrument will contain all documentation applicable to the award and administration of the grant.

### Grant Extensions

**A written request via mail or E-mail to extend the grant must be received a minimum of 30 days prior to expiration date.** After review of the request, the grantee will be notified of the Grant Analyst's decision. Upon approval, an amendment will be initiated.

### Grant Administration

The administration of FAA research grants is governed by the conditions and provisions of the grant award instrument. The FAA Research Grants Handbook, 9550.7A sets forth these and other administrative requirements.

The grantee has full responsibility for the project or activity supported under an FAA award and for adherence to the award conditions. The grantee is in the best position to determine the means by which the activity or project can be performed most effectively. Grantees are encouraged to seek advice and opinions on technical issues and problems that may arise. This advice and opinion does not imply that the responsibility for the conduct of the project has been shifted to the FAA.

### **Grant Closeout**

At completion of the grant, a letter will be sent to the grantee requesting documentation be completed to close the grant. This documentation consists of a Standard Form 425, Federal Financial Report and FAA Form 9550-5, Final Project Report, which are enclosed with the requesting letter. The OMB authorizes the grantee 90 days from the grant expiration date to liquidate (not incur new costs) all remaining obligations incurred during the award and submit all required documentation to finalize the grant. Also, as a condition of award, a copy of the Final Progress Report shall be submitted to the technical monitor AND the Grants Analyst.

**Failure to send reports or other required documents can place your organization in noncompliance with the terms and conditions of the grant award. It is critical that you send all your reports by the due dates to the proper persons. By not complying you could jeopardize your chance for future funding from the FAA.**

## **CHAPTER VI. AIR TRANSPORTATION CENTERS OF EXCELLENCE**

Proposals for Air Transportation Centers of Excellence are not being accepted under this solicitation. The COE Program is a totally separate program. Information pertaining to this program is located at <http://www.coe.faa.gov>.

## **GLOSSARY**



**Acknowledgment.** Notification by mail or e-mail sent to proposer notifying them that the proposal was received and is being processed.

**Acquisition, Materiel and Grants Division.** Federal Aviation Administration office delegated to administer the Aviation Research Grants Program for the agency.

**Assistance.** Government funding.

**Audit.** Auditor's examination of monetary and non-monetary matters relating to a particular grant to identify problems, if applicable, and provide recommendations for corrective action in order to prevent their future recurrence.

**Authorizing Legislation.** A law passed by Congress that establishes or continues a grant program.

**Authorized Representative.** Person designated by the entity receiving a grant to sign and commit them to all provisions set forth in the grant award instrument.

**Bibliography.** Listing of works produced.

**Budget Narrative.** Clarification to the Budget submission explaining requests for travel, equipment, personnel costs, etc.

**Continuing Grant.** Additional funding awarded for budget periods following the initial budget period of a multi-year discretionary grant or cooperative agreement.

**Contract.** A transaction whose principle purpose is to make acquisitions for direct DOT use. This type of vehicle is not administered by the Aviation Research Grants Program Office.

**Cooperative Agreement.** A type of federal assistance; essentially, a variation on a grant awarded by the DOT when it anticipates having substantial involvement with the recipient during the performance of a funded project.

**Cost Sharing.** Represents a portion of project or program costs borne by the grantee, i.e., percentage of overall costs or overhead rates, providing facilities, not charging for key personnel salaries or other direct costs, etc.

**Declined.** When a proposal has been deemed not acceptable and the applicant is notified in writing advising why the proposal has not been accepted for award.

**Defense Contract Audit Agency.** Agency that may be used by the Federal Aviation Administration to perform required audits of grantees.

**Disclosure of Lobbying Activities.** A required form that discloses lobbying activities.

**Eligible Proposals.** Three categories used to differentiate the proposals according to technical merit.

**Evaluation Criteria.** Four criteria against which each proposal is evaluated in order to determine technical merit and eligibility for funding.

**FAA Research Grants Handbook, 9550.7A.** Official publication by the Aviation Research Grants Program which sets forth policies and procedures for the award and administration of FAA aviation research grants and cooperative agreements.

**For-Profit.** Research institutions that normally makes a profit.

**Grant.** Funding document for the purpose to transfer money, property, services, or anything of value to the recipient in order to accomplish a public purpose of support or stimulation; there will be no substantial involvement between the Federal agency and the recipient during performance of the activity.

**Grants Analyst.** An employee of the Acquisition, Materiel and Grants Division who receives direction from the grants officer and who negotiates research grants and cooperative agreements and handles the details of administering them.

**Grant Award.** Award instrument which contains all documentation applicable to the award and administration of the grant.

**Grant Close-out.** The process during which it is determined that the recipient has performed all required work of a grant or cooperative agreement and undertakes all necessary administrative actions to make any fiscal adjustments to a recipients account.

**Grantee.** Entity which has been awarded a grant.

**Grant Extension.** A written or E-mail request by the principal investigator to the grants analyst to extend the period of grant performance.

**Grants.Gov.** A Government website that lists Federal assistance opportunities and allows electronic submission of proposals for possible awards of grants and cooperative agreements.

**Grants Officer.** Awards, administers, modifies, and terminates grants as authorized under the enabling statutes and delegated authority.

**HACU.** Hispanic Association of Colleges and Universities (minority institutions with a high volume of Hispanic students).

**HSI.** Hispanic Serving Institution.

**Indirect Costs.** Costs of an organization incurred for common or joint objectives which cannot be readily and specifically identified with a particular grant or other institutional activity.

**Indirect Cost Agreement.** Document negotiated with the institution's cognizant Federal audit agency (Health and Human Services, Department of Defense, etc.), currently in force listing the most recent rates to be applied for indirect costs.

**Institution.** Colleges, universities, research institutions and facilities.

**Minority Institutions.** Those entities, such as Historically Black Colleges and Universities, Hispanic Association of Colleges and Universities, Indian Tribes, etc.

**National Airspace System.** A national aviation system managed and operated by the Federal Aviation Administration.

**Noncompliance.** Non-receipt of required reports or documentation, established as a condition of award, which could jeopardize an entities chance for future funding from the Federal Aviation Administration.

**Non-Disclosure Form.** A form signed by technical employees who are evaluating and assessing proposals that states that these employees will not divulge knowledge of the content of the proposal.

**Nonprofit Organizations.** Independent museums; observatories; research laboratories; hospitals; consortia; professional, scientific and educational associations or societies; and similar organizations.

**Office of Management and Budget (OMB) Circulars.** Administrative policy documents that give instruction to Federal agencies on a variety of topics, including the administration of Federal grants and cooperative agreements.

**Omnibus Trade and Competitiveness Act of 1988.** Federal statute requiring Federal agencies to use the metric system, i.e., of weights and measures, in procurement, grants, and other business-related activities; and for use in reports, publications, and communiqués regarding proposals.

**Pre-Award Costs.** Any cost incurred by the applicant prior to the award date of the grant.

**Principle Investigator.** Institution representative who assumes responsibility for the scientific or technical direction of the project and for the preparation of required technical reports.

**Program Funded.** Funding provided by the Federal Aviation Administration technical program office who has evaluated and decided to fund the particular research proposal.

**Project Description.** A portion of the proposal that describes specifically how the proposer intends to implement the project and what the objectives are.

**Proposal.** An application for a grant or cooperative agreement containing all the information and forms needed to comply with all relevant legislation.

**R,E&D.** This acronym relates to the FAA Research, Engineering and Development Program. It is also used to denote the type of funding to be used.

**Research & Related Budget.** This is a required form in the proposal that describes both the direct and indirect costs associated with a particular project.

**Research & Related Personal Data.** This is a voluntary form in the proposal. If the proposer wishes to submit this data, the information is to be used only to identify and address inequities based on gender, race, etc.

**Research & Related Project/Performance Site Location.** This is a required form in the proposal that requests information concerning specific sites where the work will be performed.

**Research & Related Senior/Key Person Profile.** This is a required form in the proposal that requests specific information pertaining to the principal investigator assigned to the work and/or the co-investigators.

**Research & Related Other Project Information.** This is a required form in the proposal that contains information about human subjects, vertebrate animals, etc. Other information is also required, such as the project summary, project description, bibliography, etc.

**Salary Schedule.** A salary schedule pertaining to the PI or co-investigators may be requested prior to award.

**SF-424 Research & Related.** This is a required form in the proposal that acts as the initial application for Federal assistance. It requests information pertaining to the estimated amount of project funding, length of the project, applicant information, etc., and is electronically signed by the Authorizing Organizational Representative who certifies that all statements are true and complete.

**Federal Financial Report Form 425.** Financial Status Report required by the Office of Management and Budget to periodically document financial progress. A final report is also required at the end of the grant.

**Summary.** This information is included on the Research & Related Other Project Information Form. It is a condensed narrative describing what the proposed project is about and its objectives.

**Technical Merit.** Proposal has been evaluated and has met the required technical criteria.

**Withdrawal.** The Federal Aviation Administration receives a written notification by the principal investigator of the submitting organization describing why they have decided to withdraw their proposal submission.