



**Federal Aviation
Administration**

**FAA Center of Excellence
for
Alternative Jet Fuels and Environment**

Questions and Answers

*Updated to include
questions received through
March 15, 2013*

Issued: March 15, 2013

Q: If a university is not currently a member of a proposing team, is it possible to apply for membership in the selected COE at a later date ?

A: Yes, that is possible. A COE should have a procedure to accept applications from others and determine the basis for adding new members and/or affiliates over time.

Q: Please confirm that in addition to the hard copy submission (original and 6 copies, plus flash drive), the Adobe package should be submitted via grants.gov.

A: Yes

Q: Please confirm work conducted by national laboratories should be reflected as a subcontract budget for the respective University budgets.

A: At this time, mention of coordinated activities with a national lab may be included in the narrative. Actual budgets for activities with national laboratories will not be needed until after selection of the team and specific project.

Q: Should a center activity require work by more than one of the collaborating universities, should this be reflected in individual budgets or should the university subcontract to another?

A: The proposal should clearly describe the resources of the core universities proposing to serve as a COE team. A second tier list of universities might also be available to the core and would be in a position to receive sub awards from core members as needed. The budget should address amounts intended to support a project area rather than for a member at this point.

The FAA enters into a cooperative agreement with each core member and awards funds directly to each, even if the members are working together on a project. If a project is proposed and selected with a non-core member or affiliate performing a portion of the work, unless a direct relationship is critical, the core member would grant a sub award to the non-core member.

Q. FAA is going to issue cooperative agreements to each participating institution. Should the lead applicant provide a single SF424 budget for the total amount requested of all participating universities?

A: Yes.

Q. Should a SF424 budget form for each core university be included to demonstrate how we established the total amount and what the anticipated amount for each institution could be?

A: This is not necessary.

Q. Can either the standard SF424 or the fed/nonfed 424 budget be utilized?

A: Yes.

Q. How should the letters of commitment be uploaded to the Adobe package? As a single file in one of the attachment sections?

A: The letters need only be included with the hard copy submissions of the proposal as an attachment and in the electronic file provided. There is no limit to these and there is no requirement to submit these through grants.gov.

Q. The solicitation states a copy of the leads audit report must be included. Since our audit is 238 pages long, can you confirm this should be included in the hard copy solicitation or would a link to the audit suffice?

A: Yes, a link would suffice. However, it would be helpful to include a list of audit findings and resolutions.

Q. How do I fill out a budget for a subcontractor? Usually there is a button on the attachments page to extract a fillable form for the subcontractors but this package does not have one.

A: The proposal narrative should address the research approach and include those institutions/companies that are expected to participate as affiliates with the proposing COE team. At this point, the FAA does not expect a budget form to be filled out to the sub-award level of detail. Following selection of the team by the Administrator, the projects to be funded will be defined. At that time, the FAA will require that the actual proposals submitted will include the required forms and specific details to include sub-award information.

Q. May we include our indirect costs as part of the cost sharing requirement? How else may we meet the matching requirement?

A: Yes, with prior FAA approval from the COE Program Office, indirect costs may be contributed toward matching requirements. All non-federal funds or contributions that relate to a specific COE project, the individual COE, or the COE Program may be applied toward matching requirements. University PIs are encouraged to discuss matching plans with your own fiscal officers prior to finalizing the proposal. Please see the OMB Circular A-110 Section.23 Cost Sharing or Matching language attached to this message for details before meeting with your fiscal officer. (* Please see specific OMB guidance attached to this document.)

Q. For budgeting purposes, who is required to attend the four meetings during the first year? The Center leadership plus FAA; the foregoing plus all the university PIs; The entire advisory committee plus FAA?

A: The first meeting is most often hosted by the lead university and a representative from each core university (Center leadership) would be present. Pat Watts generally attends this meeting along with the FAA sponsor(s) and possibly individuals from his/her organization. Once the FAA has determined the specific tasks that would be funded, PIs may join and attendees may include additional members, affiliates, and advisors. These individuals may attend the remaining quarterly meetings, or some portion of them, during the first year, and the semi-annual meetings thereafter. Those individuals attending who may not be reimbursed for travel expenses may submit these costs as matching contributions.

Q. The number of topic areas listed in the Final Proposal could result in an extraordinarily large COE if the members were to adequately address all topics. If a university were planning to focus on one topic area, would it be sufficient to submit an individual proposal that may be combined by the FAA with other submissions, or must we combine with others to address all topics in the proposal as a team? If we submitted individual proposals addressing each topic, the FAA would have the number and specific universities and resources it needs to conduct research.

A: An individual university may take this approach; however, proposals are generally submitted by a lead university and reflect COE teams made up of various universities that have agreed to work together and combine resources and skill sets, and are positioned to address all topic areas specified in the Final Solicitation - as a collective.

Q. Type of fuel: are we expected to investigate only Jet A-1 fuel type or JP-8 and others are also of interest?

A: FAA is interested in drop-in alternative jet fuels that would work with today's fleet of aircraft. These fuels should offer equivalent levels of safety and compare favorably on cost with petroleum based jet fuel, while also offering environmental improvement and security of energy supply for aviation. For additional information, visit <http://www.caafi.org/>.

Q. How much matching should the COE be prepared to generate?

A: FAA is making a base funding commitment of \$4M/year. This will be awarded initially through the 'matching' grant, therefore, all grant funds are expected to be matched. Proposals should include various Letters of Support from various sources (without limit). Please note: Although the FAA encourages matching contributions on a task-by-task basis, this is not required. Matching contributions will be audited within the first five years of award. All matching requirements must be satisfied within each Phase; however, excess matches may be carried over into Phase II.

Q. What are minimum and maximum amount that can be requested per year?

A: Although other government organizations may also define requirements and contribute toward this COE, the FAA is making a \$4M per year base funding commitment. Proposals may be prepared with the assumption that research and related activities will be funded at a \$4M level of effort, and that this amount will be matched over time, therefore, resulting in an \$8M per year COE activity.

Q. Are support letters industry/others encouraged / allowed?

A: These are encouraged and there is no limit on the number of such letters that may be submitted.

Q. Range of Study: We are planning to focus on one topic area. Is this sufficient per proposal or must we combine with others to address all topics?

A: Generally, proposals are submitted by a lead university and reflect COE teams made up of various universities that, with combined resources and skill sets, are positioned to address all topic areas specified in the Final Solicitation - as a collective.

Q. My company would be interested in participating in the fuel testing aspect of the program as we are a leading 3rd party laboratory who could certify and identify different characteristics of the fuels in one of our 30 US based labs. Would it be possible for a company to work with a University or University Team in this aspect, should the University not have the fully capable laboratory?

A: Although they are not eligible for direct awards, companies may align with COE universities. They may be eligible to receive funds for work that cannot be performed within the academic community and they are relied upon to provide matching contributions to further COE research, education and related activities. Rather than aligning with a particular team, companies may also send a letter to the COE Program Office if they are interested in working with the selected team. The COE Program Office will forward contact information to the new team for further consideration and discussions.

Q. There are many topic areas that are expected to be addressed and various resources required of this new COE. Is there a limit on the number of members the team might propose ?

A: The FAA does not set a limit on the number of members or affiliates the team proposes.

Q. May a university rank order or weigh individual projects that are being proposed?

A: Criterion 6 is equally weighted during the evaluation process with the five other selection criteria provided by Congress. However, within Criterion 6, the COE team may present research topics in a rank order or weigh projects relative to importance determined by the team.

Q. The current grants.gov application package provides two different budget input forms (RR FedNonFed Budget and a Research and Related Budget file). Which one do you want completed?

A: The University should complete in full the Federal Budget estimate form, and may also account for nonfederal amounts on the R&R form provided in Grants.gov or in the narrative. It is important to keep in mind that we understand that this application process is intended to show the evaluation team and the Administrator that a team has the available resources necessary to serve the FAA and is able to generate matching contributions at the \$4M base annual level of effort. A new budget will be defined once the team members are selected and the actual projects are identified.

Q. What budget is requested in Volume II (4) Research and Related Budget? Should this be the operating budget for the center and its administration only? Or, should we assume some level of research funding and prepare a combined center operations and research budget?

A: The budget should reflect all anticipated activities, including operations and administration, at the \$4M level of effort.

Q. Under certain circumstances, the FAA will consider granting a waiver from the 50:50 match requirement and allow a 75:25 match. Should this request for relief be made during the proposal phase now, or is that done after a team is selected, and when new funding proposals for specific targeted projects are made after the COE is established?

A: The team should prepare the proposal based on the assumption that all grant funds awarded to *establish, operate and conduct research* will be subject to the dollar-for-dollar matching requirement. Requests for consideration of a waiver will be accepted and considered by the FAA Acquisition Executive on a case by case basis after the Administrator selects the COE team and specific proposals are submitted, evaluated, and funded.

Q. "Each university team preparing to submit a proposal in response to this Final Solicitation must submit a Letter of Intent to Patricia.Watts@faa.gov. This letter must list members and affiliates joining the team and be submitted by the university proposing to serve as the COE lead by noon on Wednesday, February 20, 2013."

What is intended regarding *affiliates*? Does this refer to the industry and other partners that would serve as advisors and potential research partners? Or, does it refer to team members who may receive sub-awards from the core universities to support specific research? Once submitted, can this list be altered in the final proposal?

A: By February 20, the Letter of Intent sent to the COE Program Office by the Lead University team member should identify (a listing and/or an organization chart) all those who are expected to support the COE in any way. COE affiliates could be universities that may be considered as part of the team (but may not be involved to the same extent as 'core' members), industry advisors and potential research partners, those willing to provide matching contributions of any kind, national laboratories, or an entity identified at this time and having expressed an interest in working with the COE in this particular topic area - for any reason. Individual letters of support are not expected to accompany the Letter of Intent to submit a proposal, and the list may be altered in the final proposal.

Q. We are working on letters of support from our industry partners, but will probably not have all those support letters in place by the letter of intent due date of Feb. 20. If the FAA requires a list of the industry partners by Feb. 20, can additional partners be included in the final proposal submittal?

A: Proposals in response to the Final Solicitation are due on March 20 and individual letters of support from industry, other entities or affiliates are due at that time and should be included with the completed package submitted by the Lead University. A proposed list (only) of university members and other affiliates is required on February 20.

Q. The specified forms require detailed budget information, but could you please clarify what scope of work is to be budgeted?

A: Applicants may prepare the initial 2 - 3 year budget in general terms as actual projects will not be defined until after the team is selected. The FAA is interested in your hypothetical approach to the topic areas, how you intend to manage the COE, the team, the costs related to necessary activities, the costs for the team to travel (4 meetings required year one and 2 meetings each year thereafter), etc.

Q. Is the budget in the proposal for the operations of the COE only?

A: The budget should include costs to administer and operate the COE as well as amounts expected to be applied to support research activities in each topic area.

Q. Are budgets required for the proposed projects specified in Criterion 6?

A: Budgets are to include estimates of the costs to conduct research and related activities in each topic area.

Q. Given that the proposed projects may or may not be selected by the FAA after selection of the COE team, it is difficult for potential cost-share partners to commit funding. What are the expectations in showing matching funds and cost-share?

A: The COE team members are expected to show letters of support from individuals representing various nonfederal entities and the extent to which they expect to be involved in COE activities. The FAA would like an indication of the organizations that will be making contributions to the universities in the different topic areas, and the proposal should indicate how the academic and industry team members expect to work together in support of the COE. We would not expect to see exact dollar amounts, although if organizations make such commitments, these may be included.

Q. Would an email on office stationary be sufficient as a letter of intent from an appropriate university official?

A: An emailed letter on office stationary will suffice as an official letter of intent in response to the solicitation for the COE for AJF&E.

Q. There is a language on p. 24 of 25 of the solicitation, reading as follows:

REQUIRED FORMS

The attached forms are required when submitting grant proposals.

- o Standard Form 424, Application for Federal Assistance
- o Research and Related Budget
- o Research and Related Personnel Data
- o Research and Related Senior/Key Person Profile (Expanded)
- o Research and Related Fed/NonFed Budget
- o Project/Performance Site Locations
- o Other Attachments"

Please provide a link where these forms can be found as this is a complex proposal with multiple team members. We would like to forward these forms to all the team members ahead of time.

A: The requested forms are available for downloads in grants.gov under funding opportunity number 13-C-AJFE-Solicitation.

Q. The grants.gov file requires an R&R budget and I am assuming this is for the lead institution. Should this include our administrative budget, anticipated research budget coming to us, or the total anticipated funds for the entire consortium?

A: The FAA is making an annual COE base funding commitment of \$4M via the grant instrument. All grant funds awarded to *establish, operate and conduct related research* are subject to the matching requirement. Therefore, this COE can expect to operate at the \$8M level of effort, pending the availability of R&D funds. The proposal and budget, whether using a form or supplemental narrative, should address all COE related activities anticipated within the initial 2 - 3 years.

Q: Within the R&R budget, the file appears to combine both the federal and nonfederal together and does not distinguish between the two. Is this the intent?

A: The universities should identify the expected sources of the match and the amounts or types of matching contributions the team members are generating. The proposal should define how the team would expect to use the federal funds and may distinguish between the use of federal funds awarded and those of the nonfederal contributions. Please note that although encouraged, matching is not necessarily required on a task-by-task basis due to the long-term nature of our COE relationship and the interest expressed by nonfederal sources in any one project.

Q: In terms of the nonfederal portion of the funding that we will expect to generate, could the universities provide an estimate of the anticipated categories for matching dollars rather than address specific topic areas ?

A: Yes, estimates are sufficient.

Q: Would the corporate entities identified in the proposal be part of the winning team and considered as a participating affiliate, or might nonfederal organizations send letters of support for the new COE for AJF&E and participate regardless of which team is selected ?

A: Industry is able to do both. Industry or any nonfederal entity may align with any one team or more than one team, and may also send a letter to the COE Program Office indicating interest in supporting the new COE - regardless of the team selected.

Q: There is not much emphasis on sound measurement within the solicitation, but measurements are needed for analytical validation. Is there a reason for not including sound measurements within the solicitation?

A: Even though it is not explicitly stated, measurement, modeling and analysis of aircraft noise are all integral to several of the technical areas of research within the solicitation. The new COE could conduct aircraft noise measurements, modeling and analysis that would complement related work that is funded by NASA and others. Such research would augment our current understanding of aircraft noise impacts and our capabilities in developing metrics, thresholds and policies.

Q: Can a non-university, such as from a federal research laboratory, serve as a member of a COE leadership team (not PI).

A: A federal research lab may conduct research within a COE relationship; however, the FAA would establish the COE cooperative agreements only with university members. Therefore, the role of the lab would be determined at the time the actual projects are defined.

Q: Can we submit suggestions that would significantly impact the Draft Solicitation and when?

A: Yes, the period public comment closes on January 10, 2013.

Q: The draft solicitation focuses on alternative jet fuel. Will alternative energy in other format that can be beneficial to air transportation be considered as within the scope of the COE?

A: As noted in the name of the new COE, the research focus will be on alternative jet fuels and environment. We intend to use this COE to aid in the development and deployment of drop-in replacements to conventional, petroleum-derived jet fuels. We are also interested in technical solutions that could mitigate the environmental impacts of aircraft operations, including engine-less taxi operations.

Q: Is one COE expected to cover all technical areas, 3.1.1 – 3.1.10?

A: The FAA would expect that university team members and affiliates would be prepared to perform research in the areas indicated in the Final Solicitation.

Q: Can a COE team sub-award to other universities not represented in the original proposal?

A: Over the life of the COE, should additional requirements surface, new members might be invited to conduct joint activities with the core COE universities. Such universities may receive funding via a sub-award from the core member or they may be added to the team as a member.

Q. How might the technical areas be prioritized by the FAA?

A: The selection criteria provided by Congress are considered to be equal. Criterion #6, which refers to the projects proposed, will be evaluated based on the proposed approach to the research topics. Once the team is selected, actual proposals will be submitted for research in support of specific topic areas.

Q. How will “alternative jet fuels” and “alternative feedstocks” be defined?

A: Alternative jet fuels are hydrocarbon-based, drop-in fuels that are derived from non-petroleum sources. Alternative feedstock is raw material required for the production of an alternative jet fuel.

Q. The term “region” is used. How is “region” being defined and is the entire team anticipated to reside/operate within the region?

A: The 'region' would include the geographic areas surrounding each member university. This criterion would include various AJF&E related facilities, resources, etc., that would benefit from or would have significant involvement in the COE. Congressional intent is clearly that a COE relationship would be an asset not only to the FAA, but to the aviation community reflected by members and affiliates in various geographic regions throughout the U.S.

Q. Is it possible for more than one COE to be awarded, each focusing on a subset of the technical areas?

A: The FAA expects one team to be selected, and anticipates that the universities would partner with members and affiliates having capabilities and resources in each of the defined technical areas.

Q. Can you confirm that the solicitation will be open to non-US companies?

A: Although the FAA has authority that is limited to awards to universities, other private and public organizations have worked with us through the COE business model and can

provide matching contributions or services as needed. Non-US companies have participated in COE research and other activities in the past and we expect this practice to continue in the future.

Q. Can a National Lab participate as a COE member or affiliate?

A: Although the FAA has the authority to award grants to universities, the university members may work with others as appropriate to support FAA research and other activities. Public and private organizations are encouraged to provide matching contributions or work with the FAA and the COE on topics of mutual interest.

Q. Would industry have to be part of the winning team to be considered as a participating affiliate or might nonfederal organizations send letters of support for the new COE for AJF&E and participate regardless of which team is selected ?

A: Industry is able to do both. You may align with any one or more than one team, and send a letter to the COE Program Office indicating your interest in supporting the new COE, regardless of the team selected.

Q. Please explain involvement of international universities. How does research from international universities feed into COE program?

A: As appropriate, international universities may collaborate, coordinate, or conduct COE related research. As in the past, however, the relationship would be defined and solidified through a U.S. university member.

Q. When a graduate student supports a COE effort, does the university also fund the student? Can you please explain graduate student stipend?

A: Graduate students very often conduct COE research under the guidance of senior faculty. Whether through a salary or a stipend, the university would generally fund the student, as it would the faculty member, at a rate that is approved by the university.

Q. Some technical areas identified in the solicitation overlap with existing COEs. Some technical areas also overlap with efforts conducted under other government agencies. How would overlap in technical areas addressed?

A: COEs have coordinated areas of mutual interest in the past by working together on various aspects of specific projects. The sponsoring organization for the task(s) would generally guide the collaborative process. When other government agencies fund a project, they are able to provide a technical monitor to assure that activities are coordinated, there is no duplication of effort, and that the various activities are complimentary.

Q. Rather than a 1:1 match, under what circumstances can a COE university or team expect to be approved for the 75-25 matching obligation?

A: Such requests are considered on an individual basis with consideration of the specific circumstances surrounding each project; however, the process to request consideration for such relief is the same: When the university is proposing to conduct a project that generates little or no interest from a nonfederal source in supporting the specific task(s) by way of matching contributions, the PI would discuss the matter with the FAA COE Program Manager and prepare a request for consideration of relief from the 1:1 requirement. The FAA COE Program Manager, if in agreement with the justification and the request, would forward the necessary 'form' to the university PI for completion. The PI would submit the form to the COE PM for concurrence. The COE PM would sign and send the formal request to the COE Program Director for further consideration. With 2nd level approval, the request would then be forwarded to the FAA Sr. Acquisition Executive at FAA Headquarters for final consideration.

Q. At the stakeholder's meeting it was mentioned that geographic diversity is desirable or required in the COE program. Does this mean that geographic diversity is an evaluation criterion that will be used in the selection of the new center team?

A: As was discussed in our meeting, there are six selection criteria clearly presented by Congress in Public Law 101-508 and each of these are equally weighted. However, within the body of legislation, it is also stated:

- **(1) General Authority** – The administrator may make grants to one or more colleges or universities to establish and operate several regional centers of air transportation excellence, whose locations shall be geographically equitable.

- **(7) Allocation of Funds** – Funds made available to carry out this subsection shall be allocated by the Administrator in a geographically equitable manner.

Therefore, the FAA Administrator must also consider the teams that enable him to comply with the additional Congressional guidance provided in the COE enabling legislation.

Q. Describe how industry participates in the Centers?

A: Industry affiliates can participate in COEs in various ways. Industry affiliates can serve as members of the Advisory Boards, provide matching contributions in various ways, or receive sub-awards for specific tasks. If industry participants are interested in working with the team that is selected for the new COE for AJF&E, they can send Pat Watts a letter stating their capabilities and willingness to join the core universities. Industry participants are also free to contact a proposing team and individual universities and discuss possibilities directly with each of them.

Questions presented at the COE Public Meeting conducted on November 15th & 16th 2012

Q. Do you anticipate working with NASA on altitude emissions projects?

A: NASA is one of FAA's primary collaborators regarding aircraft emissions measurement research. We anticipate continuing our collaboration with NASA on emissions research, including measurements, and in the future this would include emissions measurements at altitude.

Q. What is private sector's involvement in COE program? How does FAA distinguish work that would go to COE vs. contract vehicles?

A: The private sector participates within the PARTNER COE via an advisory board (that advises the PARTNER Director). We derive much value from the input this body provides to PARTNER. We hope that we can continue to get similar information from industry participation within the new COE. We distribute work to the COE and contractors as we deem appropriate.

Q: Is trailing edge vortex mitigation reduction and reducing separation time in flight a research topic area for the new COE?

A: This has not been something FAA has pursued and we do not see it as a priority as benefits are not clear.

Q: What are the plans for the PARTNER COE? Please explain the relationship between the existing COE for Partner and new COE. What is vision of the transition to the new COE from the existing COE for Partner?

A: The PARTNER COE is currently set to reach its ten-year mark in September 2013. We are seeking a short-term extension of PARTNER to ensure an orderly transition of research from the PARTNER COE to the new COE.

Q: What is the difference between the existing technical areas within the COE solicitation and the work being conducted by the PARTNER COE? Which ones are overlaps?

A: There are areas of overlap between the existing and new COE in the technical areas covering environment and the economic and environmental sustainability of alternative fuels. The existing COE does not conduct research in other areas relating to alternative jet fuels.

Q: In the ten technical areas, is there an area that is more important than the others? Are all ten technical areas equally weighted?

A: The ten technical areas are equally important. As reflected in the name, COE for Alternative Jet Fuels and Environment, half of the technical areas are related to alternative jet fuels and half are on areas related to environment.

Q. In the five pillar environmental approach, what is the priority of pillar five?

A: The new COE will need to conduct work on all five of the NextGen environmental pillars. The new COE will be instrumental in providing information that aids FAA in developing aviation and environmental policy, which is Pillar 5, so this will indeed be a priority. Prioritization within this pillar evolves as needs evolve.

Q. Please explain vision of synergy for alternative fuel and environment technical areas?

A: As the two topics are highly inter-related, we are looking for teams that can work together.

Q. In regards to algae bio fuel, will the new COE include genetic engineering as a topic area?

A: No. We are looking to complement the work that is ongoing at DOE and USDA and genetic engineering clearly falls into the work that they are funding.

Q. What will be the process to prioritize research topics? Will stakeholders be involved?

A: We anticipate stakeholder involvement to identify key areas of concern for the aviation industry and to use this information to identify potential areas of research for the COE.

Q. Please explain life cycle assessment, fuel logistics, and regional feedstock solutions in the context of new COE program.

A: The new COE program will use life cycle assessment to evaluate the greenhouse gas emissions from the use of alternative jet fuels. In order to support regional alternative jet fuel supply development the COE may conduct analyses of fuel logistics, feedstock solutions and other studies.

Q. Please define alternative, renewable, and sustainable in the context of alt fuels for the new COE program. Is there a greenhouse gas threshold that would need to be met for an alternative fuel to be considered for funding within the new COE program?

A: When we refer to alternative jet fuels we mean hydrocarbon-based, drop-in fuels that are derived from non-petroleum sources. FAA is agnostic as to feedstock and alternative fuel conversion process, but we are seeking alternative jet fuels that offer benefits over petroleum jet fuels from a GHG and Air quality perspective. These benefits would need to be confirmable via appropriate quantification of life-cycle GHG emissions, emissions that degrade air quality, and sustainability analysis that consider factors such as water use, land use and economic impact on rural communities. Many of these fuels are expected to be renewable or incorporate renewable (e.g. biomass) feedstocks.

Q. What is the baseline for sustainability in the context of the new COE?

A: The baseline for comparison for economic and environmental sustainability is conventional jet fuel refined from petroleum feedstocks.

Q. In order to conduct fuel testing, a university could need access to expensive equipment. What would be the opportunity for universities to access equipment and engines? Is there any potential to access equipment or engines from the US Air Force or other?

A: We work very closely with the Air Force Research Laboratory, NASA, engine OEMs, and other entities that have equipment and engines. While there is a possibility to work with these groups within the context of the new COE, it is the responsibility of each proposing university team to coordinate access and use of such equipment and facilities, if it is required to perform the research proposed.

Q. Could you please explain what you have in mind to do to reduce the costs associated with fuel testing (performance, durability) to support fuel qualification?

A: Historically, the only way to validate a proposed fuel has been to characterize the fuel properties relative to petroleum-derived fuel and then run an extensive and expensive series of developmental rigs and engines tests. Pilot-plant quantities of the fuel are required for these rig and engine tests. In order to change from this laborious, expensive, and uncertain process, tests and testing procedures are required that can clearly identify if a proposed fuel chemistry is acceptable or not and can do so in a reasonable time frame and cost with limited quantities of fuel. COE work could support efforts to define tests that identify either allowable chemical compositions or proof tests that can be performed quickly with limited quantities of fuel.

Q. What is the goal of combing technical areas relating to alternative fuels and environment? How are those two technical areas related?

A: The areas are linked because alternative fuels are one of the three key technological areas that will help us reach our energy goals as well as our environmental goals in terms of climate change and air quality. We are looking for a team with a wide range of capabilities who can evaluate these environmental interdependencies as well as those that relate to the other key technological areas of aircraft and their operation.

Q. Please elaborate on FAA's funding level. How much will be the FAA interest in funding alternative fuel technical area?

A: The relative funding that will be devoted to the technical areas will vary depending on FAA's needs. We intend to support this COE at a minimum \$4 million base level annual funding, pending congressional appropriations.

Q. What tools and mechanism can the COE program office use to attract funding?

A: The university and industry participants within the COE will have the opportunity to provide the FAA, and other funding agencies that participate in the new COE, with potential areas of research.

Q. Some COEs refer to their industry participants as affiliates, but PARTNER refers to theirs as an advisory board. What is the role of industry in the new COE?

A: Each COE center uses variation of terminology. The industry participants in the PARTNER COE form an Advisory Board that provides advice to the PARTNER COE Director. The PARTNER Advisory Board does not advise the FAA, but the advice that is given to the PARTNER COE Director is shared with the FAA.

Q: Does the structure for the new COE need to be the same as that of PARTNER?

A: The structure of the COE is at the university team's discretion. We want to minimize overhead from the COE program office such that we have more funding to conduct research.

Q: Would the COE advisory board determine the research priority for projects?

A: This varies by COE. We will seek input from the COE members on an annual basis for potential areas of research.

Q: Please explain evaluation criterion #1 from the solicitation.

(A) The extent to which the needs of the State in which the applicant is located are representative of the needs of the region for improved air transportation services and facilities.

A: To address needs of the State and region for improved services and facilities would require the applicant to describe the current facilities, services, and other resources currently available to support and commit to a strong COE relationship with the FAA. The university might also anticipate how the COE might utilize the current resources and serve to enhance or expand the State and regional capabilities in the topic area.

Q: Please explain evaluation criterion #6 from the solicitation. How does FAA determine what research efforts are a priority for a COE?

(F) The projects which the applicant proposes to carry out under the grant.

A: Within each research phase, the FAA determines research priorities based on the sponsoring organizations' mission, goals, fiscal plans and available funding.

Q: Does advisory board determine priority on research topics?

A: The COE advisory board may have the opportunity to review and comment on the various research topics proposed and completed; however, the sponsoring organization for each project generally establishes initial research requirements. When the COE is established, the members will determine who serves on the board and how the board will interact with the COE.

Q: A five-year evaluation is a long period of time to conduct effective course correction. How would feedback and input be provided in the interim?

A: Within a three-year COE phase, a standard evaluation would take place during the second year. However, we anticipate that this COE will be established with a five-year agreement. This timing would lend itself to an evaluation after the completion of the first year and again during the 4th year of operation.

Q: Under evaluation criterion #5 for continuing education, what qualifies as continuing education? Would a short course be considered continuing education?

(E) The demonstrated ability of the applicant to disseminate results of air transportation research and educational programs through a statewide or regionwide continuing education program.

A: Yes.

Q: Are all evaluation criteria in the solicitation of the same importance?

A: All criteria are treated equally.

Q: Is geographic equity considered on the center level as represented by all proposed university members?

A: Yes

Q: Would this a multiple award?

A: The FAAs intention is to select one team but each member is funded separately.

Q. Please explain the role of non-academic affiliates on the COE team.

A: Although only university members are able to submit proposals, industry affiliates and other private entities may serve on the advisory board, provide matching contributions, receive sub-awards to conduct research, host meetings, provide for student work assignments, support assignments at various locations, etc. The specific role of affiliates and other private and public entities would be clearly defined by the selected team and further expanded as the COE develops.

Q. Please explain the role of the university team. How are specific tasks awarded once the new center is established?

A: Once the COE team has been selected, the COE program office negotiates and executes a cooperative agreement with each core university member, and introductory meetings are conducted with the various sponsoring organizations. As a result of these initial discussions, the universities submit proposals to the federal government for specific topics at a specific funding level. The proposals are evaluated and funded as amendments to the cooperative agreements.

Q. Can one university be on multiple proposals?

A: Yes.

Q. Can industry be exclusive to their commitment to one team or may they support any team selected?

A: They may do both or either, exclusively commit to one team by way of a letter to the lead university which would be included in their proposal package, or provide a letter of support to the COE program office in support of any team selected.

Q. Does a COE make itself available on to the FAA sponsor or can it provide research support other FAA organizations and others outside the FAA?

A: Once the COE is established, the FAA expects these resources to be available to other organizations within the FAA and outside the FAA as well. Such an expansion of COE services to others would enable the COE to become a ‘national resource’ and lead to self-sufficiency within 10 years, as anticipated by the agency.

Q: Is there a limit to the numbers of school in one COE?

A: No, there is no limit.

Q. Please explain the role of administrative lead.

A: One COE member takes responsibility as the Administrative Lead and coordinates all administrative matters with members and affiliates.

- Prior to selection as a COE and during the solicitation phase, the consortium of universities and other institutions of higher learning identify either a single or joint institution(s) which will act as the lead for the COE.
 - The FAA does not recognize any one university or institution of higher learning as the “Primary” partner within the COE because the FAA intends to have a direct relationship with all core members of the COE and participate in substantial interaction and involvement directly with all COE researchers.
 - Universities may choose to rotate leadership within a COE with one of the members from the group serving as the lead institution for administrative or technical purposes for a period of time. Such responsibilities may change or remain with one institution throughout the life of a COE.
 - The Administrative Lead would compile member information and serve to conduct various activities, such as:
 - **Information Dissemination.** Dissemination of relevant COE information and progress of the affiliated group, to the FAA and to the aviation community nationally and internationally as appropriate.
 - **Report Submission.** Using a standardized management information system, track, prepare and submit quarterly, semiannual and annual reports, financial statements and other information as required by the COE Program Manager or COE Program Office, etc.
 - **Annual Review and Meetings.** Coordinate and schedule various meetings as needed with the COE Program Director and COE Program Manager.
 - **Oversight.** Assure that research teams are coordinated as needed, activities are not duplicated, matching plans and reports are reasonable, prudent, and submitted as needed, and all COE members are fully involved in COE activities.
 - **Identification of Points of Contact.** Assuring that primary points-of-contact (POCs) are identified at each member institution and affiliate, and assure that POC contact lists are updated on a regular basis and reported to the COE Program Director.
 - **Track Student Placement.** Assuring that the COE Program Office receives reports regarding the placement of all students as they complete their studies and enter the work place.
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Attachment - OMB Guidance: Matching Contributions

OMB Circular A-110 Section .23 Cost Sharing or Matching

(a) All contributions, including cash and third party in-kind, shall be accepted as part of the recipient's cost sharing or matching when such contributions meet all of the following criteria.

- (1) Are verifiable from the recipient's records.
- (2) Are not included as contributions for any other federally-assisted project or program.
- (3) Are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
- (4) Are allowable under the applicable cost principles.
- (5) Are not paid by the Federal Government under another award, except where authorized by Federal statute to be used for cost sharing or matching.
- (6) Are provided for in the approved budget when required by the Federal awarding agency.
- (7) Conform to other provisions of this Circular, as applicable.

(b) Unrecovered indirect costs may be included as part of cost sharing or matching only with the prior approval of the Federal awarding agency.

(c) Values for recipient contributions of services and property shall be established in accordance with the applicable cost principles. If a Federal awarding agency authorizes recipients to donate buildings or land for construction/facilities acquisition projects or long-term use, the value of the donated property for cost sharing or matching shall be the lesser of (1) or (2).

(1) The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation.

(2) The current fair market value. However, when there is sufficient justification, the Federal awarding agency may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project.

(d) Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services shall be consistent with those paid for similar work in the recipient's organization. In those instances in which the required skills are not found in the recipient organization, rates shall be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.

(e) When an employer other than the recipient furnishes the services of an employee, these services shall be valued at the employee's regular rate of pay (plus an amount of fringe benefits that are reasonable, allowable, and allocable, but exclusive of overhead costs), provided these services are in the same skill for which the employee is normally paid.

(f) Donated supplies may include such items as expendable equipment, office supplies, laboratory supplies or workshop and classroom supplies. Value assessed to donated supplies included in the cost sharing or matching share shall be reasonable and shall not exceed the fair market value of the property at the time of the donation.

(g) The method used for determining cost sharing or matching for donated equipment, buildings and land for which title passes to the recipient may differ according to the purpose of the award, if (1) or (2) apply.

(1) If the purpose of the award is to assist the recipient in the acquisition of equipment, buildings or land, the total value of the donated property may be claimed as cost sharing or matching.

(2) If the purpose of the award is to support activities that require the use of equipment, buildings or land, normally only depreciation or use charges for equipment and buildings may be made. However, the full value of equipment or other capital assets and fair rental charges for land may be allowed, provided that the Federal awarding agency has approved the charges.

(h) The value of donated property shall be determined in accordance with the usual accounting policies of the recipient, with the following qualifications.

(1) The value of donated land and buildings shall not exceed its fair market value at the time of donation to the recipient as established by an independent appraiser (e.g., certified real property appraiser or General Services Administration representative) and certified by a responsible official of the recipient.

(2) The value of donated equipment shall not exceed the fair market value of equipment of the same age and condition at the time of donation.

(3) The value of donated space shall not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.

(4) The value of loaned equipment shall not exceed its fair rental value.

(5) The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties.

(i) Volunteer services shall be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.

(ii) The basis for determining the valuation for personal service, material, equipment, buildings and land shall be documented.