



COORDINATING RESEARCH COUNCIL, INC.

3650 MANSELL ROAD, SUITE 140
ALPHARETTA, GA 30022
TEL: 678/795-0506 FAX: 678/795-0509
WWW.CRCAO.ORG

October 15, 2009

In reply, refer to:

CRC Project Number AV-11-09

Prospective Bidders

CRC Request for Proposal No. AV-11-09

Dear Prospective Bidder:

The Coordinating Research Council, Inc. (CRC) invites you to submit a written proposal to conduct a study to “Develop an Aviation Fuel Cold Flowability Test to Replace Freezing Point Measurement ” as described in the attached Statement of Work, Exhibit A, for CRC Project No. AV-11-09.

Please indicate via letter, fax, or email by **October 22, 2009** whether or not your organization intends to submit a written proposal for the project. CRC will answer technical questions regarding the Request for Proposal if they are submitted in writing. CRC will then return written answers to all of the bidders, along with a copy of the original questions.

The CRC technical group composed of equipment, petroleum, and government representatives will evaluate your proposal. CRC reserves the right to accept or reject any or all proposals.

The reporting requirement will be monthly reports to CRC in accordance with Exhibit A Statement of Work. A Final Report documenting the results of the study will be published. The reporting requirement is described in more detail in the attachment entitled, “Reports” (Exhibit B).

The “Intellectual Property Rights Clause” (Exhibit C) and “Liability Clause” (Exhibit D) will be a part of the agreement, which will be executed as a result of this Request for Proposal solicitation.

The proposal must be submitted as two separate documents. The technical approach to the problem will be described in part one and a cost breakdown that is priced by task will be described in part two. The cost proposal document should include all costs associated with conducting the proposed program.

CRC expects to negotiate either a cost reimbursable or a fixed price contract. Important selection factors to be taken into account are listed in Exhibit E. CRC evaluation procedures require the technical group to complete a thorough technical evaluation before considering costs. After developing a recommendation based on technical considerations, the costs are revealed and the recommendation is modified as needed.

Electronic copies of the technical and cost proposals should be submitted to:

Mrs. Jan Tucker
Coordinating Research Council, Inc.
3650 Mansell Road, Suite 140
Alpharetta, GA 30022

Phone: 678-795-0506, Ext. 100

Fax: 678-795-0509

E-mail: jantucker@crcao.org

The deadline for receipt of your proposal is **November 15, 2009.**

Sincerely,

Brent K. Bailey
Executive Director

EXHIBIT A

STATEMENT OF WORK

Develop an Aviation Fuel Cold Flowability Test to Replace Freezing Point Measurement

Relevant Strategic Objectives: Provide airlines and fuel manufacturers with a better method to assess fuel low temperature properties.

Background: At the 2008 IATA meeting in Shanghai, China the airlines requested that a fuel cold flow ability test be devised to replace the currently-in-use freezing point methods. This subject has been the object of a research program by the USAF within the past decade, and was the subject of significant discussion in 2007, but to no particular end. “Flowability” has different meanings to different equipment manufacturers, and for jet fuel it can be limited by both wax crystal formation (rate of formation and specific crystal structure) and fluid viscosity. For the Airframer, the limit is flow through small (quarter inch (?)) holes in the wing support structure running through fuel tanks, and isolated pipes that flow fuel intermittently during a flight. The APU manufacturer is concerned with fuel in piping from the source tank to the APU and fuel filters at their engine’s inlet. The engine manufacturer has concern for the engine inlet filters. It should be recognized that a total answer is, probably, not possible. Finding a satisfactory limit for the airframer/airlines that gets the fuel out of the tanks would be a good start. Further, whatever answer becomes the goal, free water in the fuel needs to be part of the solution.

Project Objectives: Using the available database, determine if there is a current test method or combination of test methods that could be used to assess jet fuel flowability limits, and/or develop a new method or technique to achieve this objective.

Project Approach: 1) Request a critical summary of the AFRL Fuel Tank Hold-up test results, (circa 1995 – 2003). Review this data to determine the specific program goal or test criteria.

2) Obtain from the different OEM’s the fuel vessel geometry and real life operating conditions thought to be most severe. This is to obtain a better understanding of what the test method has to emulate and/or what translation of test result to real world has to occur.

3) There exist within ASTM test methods several that could become models for moving forward. One is ASTM D4305, the filter flow test based on a set screen mesh and not currently in use due to a need to constantly adjust test parameters to match D2386 Freezing point. ASTM D5985, Standard Test Method for Pour Point of Petroleum Products (Rotational Method) which accounts for both viscosity and wax formation, albeit lacks a jet fuel precision statement. ASTM D97, STM for Pour Point of Petroleum Products. Inspect these test methods for possible usability and research the existent methods for any new technology which could also be of use.

4) Establish a test program with a method or methods selected from above or other sources. If a new method needs to be invented, describe the needed elements of that test and assemble an industry team to work it out.

Project Deliverables: Identify an improved test method(s) to determine jet fuel flowability, its applicability to airline operation and whether it can replace current freezing point methods. Identify a test program to validate this method.

Utilization of Deliverables: Harmonization of jet fuel specifications, provide airlines with improved capability to plan fuel loading for long range flight and provide improved in-flight operation as fuel cools to usable limits.

Relevant CRC Committee: **Low Temperature Group**

EXHIBIT B

REPORTS

MONTHLY TECHNICAL PROGRESS REPORTS

The contractor shall submit a monthly technical progress report covering work accomplished during each calendar month of the contract performance. An electronic Microsoft Word compatible file of the monthly technical progress report shall be submitted to CRC by the contractor within ten (10) calendar days after the end of each reporting period. The report shall contain a description of overall progress, plus a separate description for each task or other logical segment of work on which effort was expended during the reporting period in accordance with Exhibit A Statement of Work..

DRAFT AND FINAL REPORT

The contractor shall distribute for the CRC an electronic pdf-compatible copy of a draft final report after completion of the technical effort specified in the contract. The draft final report shall document, in detail, the test program and all of the work performed under the contract. The report shall include tables, graphs, diagrams, curves, sketches, photographs and drawings in sufficient detail to comprehensively explain the test program and results achieved under the contract. The report shall be complete in itself and contain no reference, directly or indirectly, to the periodical report(s).

The CRC Steering Committee shall furnish comments regarding the draft report to the contractor within one (1) month after the draft copy.

Within thirty (30) days after receipt of the approved draft copy of the annual report, the contractor shall make the requested changes and deliver to CRC thirty (30) hardcopies including a reproducible master copy of the final report. The final report shall also be submitted as an electronic copy in a WORD, pdf or pdf-convertible file format. The electronic copy will be made available for posting on the CRC website.

EXHIBIT C

INTELLECTUAL PROPERTY RIGHTS

Title to all inventions, improvements, and data, hereinafter, collectively referred to as (“Inventions”), whether or not patentable, resulting from the performance of work under this Agreement shall be assigned to CRC. Contractor X shall promptly disclose to CRC any Invention which is made or conceived by Contractor X, its employees, agents, or representatives, either alone or jointly with others, during the term of this agreement, which result from the performance of work under this agreement, or are a result of confidential information provided to Contractor X by CRC or its Participants. Contractor X agrees to assign to CRC the entire right, title, and interest in and to any and all such Inventions, and to execute and cause its employees or representatives to execute such documents as may be required to file applications and to obtain patents covering such Inventions in CRC’s name or in the name of CRC’s Participants or nominees. At CRC’s expense, Contractor X shall provide reasonable assistance to CRC or its designee in obtaining patents on such Inventions.

EXHIBIT D

LIABILITY

It is agreed and understood that _____ is acting as an independent contractor in the performance of any and all work hereunder and, as such, has control over the performance of such work. _____ agrees to indemnify and defend CRC from and against any and all liabilities, claims, and expenses incident thereto (including, for example, reasonable attorneys’ fees) which CRC may hereafter incur, become responsible for or pay out as a result of death or bodily injury to any person or destruction or damage to any property, caused, in whole or in part, by _____’s performance of, or failure to perform, the work hereunder or any other act of omission of Contractor in connection therewith.

EXHIBIT E

PROPOSAL EVALUATION CRITERIA

- 1) Merits of proposed technical approach.
- 2) Previous performance on related research studies.
- 3) Personnel available for proposed study – related experience.
- 4) Timeliness of study completion.
- 5) Cost.