



COORDINATING RESEARCH COUNCIL, INC.

5755 NORTH POINT PARKWAY, SUITE 265

ALPHARETTA, GA 30022

TEL: 678/795-0506 FAX: 678/795-0509

www.crcao.org

May 1, 2017

In reply, refer to: CRC Project No. CM-138-17-1

Dear Prospective Bidder:

The Coordinating Research Council, Inc. (CRC) invites you to submit a written proposal on a "Computer Controlled Poor Driveability on Demand Training Vehicle" as described in the attached Statement of Work, Exhibit A.

Please indicate via email by **May 15, 2017** whether or not you or 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 text, data and charts to CRC in accordance with Exhibit A - Statement of Work. A Final Report documenting the results of the study will be published by CRC. 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 may 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 separate technical and cost proposals should be submitted to:

Dr. Christopher J. Tennant
Coordinating Research Council, Inc.
5755 North Point Parkway, Ste. 265
Alpharetta, GA 30022

Phone: 678-795-0506, Ext. 105
Fax: 678-795-0509
E-mail: ctennant@crcao.org

The deadline for receipt of your proposal is **May 26, 2017**.

Sincerely,
Dr. Christopher J. Tennant
Deputy Director

EXHIBIT A

STATEMENT OF WORK

Title: Computer Controlled Poor Driveability on Demand Training Vehicle

Background: The Coordinating Research Council (CRC) has performed numerous projects over the years in order to refine and better understand the relationship between the volatility of gasoline and gasoline-ethanol blended fuels and driveability issues drivers experience in their vehicles. In carrying out these projects, the CRC developed a system and nomenclature to better discriminate between the types of drivability events and their severity. The task of scoring these events utilizes trained raters. The raters perform a pre-set series of maneuvers on a test vehicle, and determines if a driveability event is either a hesitation, a stumble, or a surge. The rater then assigns a severity score of high, medium, or low to the driveability event. This rating method has been used for decades, but unfortunately, no new replacement raters are trained to replace current, long serving ones.

The availability of a vehicle where the driveability events can be created and controlled on demand would facilitate a number of CRC projects including: training new raters, evaluating new methods for measuring vehicle driveability, and correlating trained rater evaluations of driveability with real world driving. Additionally, using a dedicated vehicle where the driveability events can be created could offer a different level of versatility in the types of driveability projects. Instead of leaving projects to the unknown characteristics of vehicles in the field to create driveability problems, the projects can be designed around the dedicated vehicle. Utilizing a Driveability on Demand Vehicle will also result in not having to develop and source special test fuels that may or may not result in poor driveability for some future correlation from Road to Lab test programs. This saves time and money.

Project Objectives: Develop engine control module (ECM) calibration software and hardware to control driveability events through an easy to use user interface system in a dedicated, CRC-owned vehicle.

Project Approach: The selected contractor must develop a means to create all three types of driveability events at any severity. These events must be repeatable and not affect the vehicle's normal operation, outside of initiation of an inputted driveability event. The driveability events require easy user input and interface.

Project Deliverables: At the project's completion, a vehicle with the means for an operator to easily cause hesitation, stumble, surge, stall, and/or poor idle quality driveability events. These events should be able to vary in intensity (high, medium, and low), also at the discretion of the operator. The scheduling of the events should only be obvious to the system operator, and not to the driver or front seat passenger. Being able to pre-program the events would be a plus.

Utilization of Deliverables: The following projects could utilize the driveability vehicle:

- Train CRC raters
- Evaluate CRC raters vs. AVL Drive or similar automatic rating system
- Develop new driveability procedures for all weather chassis dynamometer (AWCD)
- Develop correlation for AWCD vs. real world driving

- Define noise level thresholds of the hot fuel handling (HFH) and cold start and warm-up (CS&W) procedures

The following projects would be able to be run using the results of the aforementioned projects:

- Develop new driveability procedures for mild and strong hybrid vehicles
- Conduct HFH program with Tier 3 certified vehicles
- Conduct cold-start program with Tier 3 certified vehicles

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 (<1 MB) of the monthly technical progress report shall be distributed 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.

FINAL REPORT

The contractor shall submit to or distribute for CRC an electronic (Microsoft Word) copy transmittable via email) of a rough draft of a final report within thirty (30) days after completion of the technical effort specified in the contract. The 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 monthly report(s).

Within thirty (30) days after receipt of the approved draft copy of the final report, the contractor shall make the requested changes and deliver to CRC ten (10) hardcopies including a reproducible master copy of the final report. The final report shall also be submitted as electronic copies in a pdf and Microsoft Word file format. The final report may be prepared using the contractor's standard format, acknowledging author and sponsors. An outside CRC cover page will be provided by CRC. 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.

To the extent that a CRC member makes available any of its intellectual property (including but not limited to patents, patent applications, copyrighted material, trade secrets, or trademarks) to Contractor X, Contractor X shall have only a limited license to such intellectual property for the sole purpose of performing work pursuant to this Agreement and shall have no other right or license, express or implied, or by estoppel. To the extent a CRC member contributes materials, tangible items, or information for use in the project, Contractor X acknowledges that it obtains only the right to use the materials, items, or information supplied for the purposes of performing the work provided for in this Agreement, and obtains no rights to copy, distribute, disclose, make, use, sell or offer to sell such materials or items outside of the performance of this Agreement.

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 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.