



ADVANCED RESEARCH PROJECTS AGENCY
3701 NORTH FAIRFAX DRIVE
ARLINGTON, VA 22203-1714



September 16, 1993

Robert Law
Galileo Research, Inc.
P.O. Box 25
Torrington, CT 06790

REFERENCE: Technology Reinvestment Project (TRP) SBIR Proposal
A Free Piston Engine-Generator Employing Homogeneous Charge
Compression Ignition Type Combustion
Log #: 9330638-1
Topic #: TR-024, Technology Focus Area #: FA-009

Dear Dr. Law:

The Defense Technology Conversion Council (DTCC), chaired by the Advanced Research Projects Agency (ARPA), is in receipt of your referenced FY93 TRP Small Business Innovation Research Phase I proposal. Please note that a unique log number has been assigned to your proposal. To expedite future correspondence with DTCC or ARPA, please refer to your log number in any correspondence regarding your proposal.

I anticipate that the proposal evaluation will be completed by December 6, 1993. You will be notified in writing as to the status of your proposal at that time. Thank you for your participation in the TRP SBIR Program.

Sincerely,

M.C. Jacobs
SBIR Program Manager



ADVANCED RESEARCH PROJECTS AGENCY
3701 NORTH FAIRFAX DRIVE
ARLINGTON, VA 22203-1714



February 4, 1994

Mr. Kenneth Galitello
Galileo Research, Inc.
P.O. Box 25
Torrington, CT 06790

Reference: SBIR Proposal
Log #: 9330638-1

Dear Mr. Galitello:

The Advanced Research Projects Agency (ARPA) is responding to your request for information regarding your above-referenced proposal to the Technology Reinvestment Project (TRP).

Currently, we expect the results of the Small Business Innovation Research (SBIR) portion of the TRP to be announced by early March 1994. Due to the unexpectedly large number of proposals received, and in an effort to coordinate evaluations among the six participating agencies, the deadline was changed to ensure that each proposal received a fair and thorough evaluation. Please note that you will be notified of acceptance/non-acceptance by mail as soon as final decisions are made. Telephone inquiries will slow down the process.

I hope this information is helpful to you.

Sincerely,


M.C. Jacobs
SBIR Program Manager



ADVANCED RESEARCH PROJECTS AGENCY
3701 NORTH FAIRFAX DRIVE
ARLINGTON, VA 22203-1714



March 23, 1994

Robert Law
Galileo Research, Inc.
P.O. Box 25
Torrington, CT 06790

REFERENCE: Technology Reinvestment Project (TRP)
Small Business Innovation Research (SBIR) Proposal
entitled:
A Free Piston Engine-Generator Employing
Homogeneous Charge Compression Ignition Type
Log #: 9330638-1

Dear Dr. Law:

The Defense Technology Conversion Council (DTCC), chaired by the Advanced Research Projects Agency (ARPA), has completed its evaluation of all Phase I proposals submitted in response to the TRP/SBIR program solicitation. Proposals which met the basic administrative requirements specified in the solicitation were evaluated by officials from the agencies participating in the DTCC (Departments of Defense, Transportation, Commerce and Energy, the National Science Foundation, and the National Aeronautics and Space Administration). Unfortunately your proposal was not selected.

The competition was extremely intense with over 2,450 proposals submitted under the program seeking almost \$250 million against the \$7.2 million available. Because this would have resulted in a success rate of less than 3%, a decision was made during the review process to increase the amount of funds available to \$14 million, thus doubling the number of awards.

Every effort was made to ensure that evaluations were conducted in a fair manner which met all statutory requirements. Every proposal was evaluated by at least two different evaluators. Seven hundred and seventy-six (776) federal employees participated in the review process and prepared over 8,100 evaluations. Evaluators then participated in 18 days of oral review panels. Final funding decisions were based on the combination of written evaluations and oral discussions during the review panels. To be successful, Phase I efforts had to show both high technical innovation and exciting commercial potential. Dual use was a very important consideration and the explicit and convincing identification of a commercial market factored into the review process. Commitment and potential for Phase II and Phase III were also important, as were the qualifications of the principal/key investigators and supporting staff, from both a developmental and an entrepreneurial standpoint.

Attached is a list of anticipated contract awardees. Also attached are copies of evaluator's comments regarding your effort. Although your effort may have received a favorable recommendation from a variety of reviewers, it did not rank in the highest priority that went forward for funding. The attachments comprise your formal debriefing. Hopefully, the information will assist you in your future endeavors.

Thank you for your interest and participation in our program. We hope that you will consider submission under future SBIR solicitations of the Technology Reinvestment Project.

Sincerely, .

A handwritten signature in black ink, appearing to read "R. Register", written in a cursive style.

Ron H. Register
Source Selection Authority
Technology Reinvestment Project

Enclosure

Focus Area: FA-009 Topic: TR-024

Title: A Free Piston Engine-Generator Employing Homogeneous Charge Compression Ignition Ty

Galileo Research, Inc.
P.O. Box 25
Torrington, CT 06790

Log No: 9330638
Amount Proposed: \$99,193

- THINK LIKE A VENTURE CAPITALIST. WHY INVEST IN THIS? -

Soundness and technical merit

How exciting is the innovation?

quite exciting! This free-piston engine concept appears to be a novel idea to recharging electric ^{vehicles} ~~batteries~~
How will DoD/government benefit?

May be useful for Hybrid vehicles, as small portable generators and a large stationary generators

Potential for commercialization

How big and how soon is what market?

It offers a partial solution to extend the range of electrical powered vehicles, and also its size and weight. Cannot estimate when this would be available for the automotive market

Adequacy of the effort

How will Phase 1 lead to a good Phase 2 decision? How much is enough money?

Phase I results are to be used for phase II prototype development and construction. Phase I effort is a five month effort.

Qualifications

How qualified are PI and firm for both development and entrepreneuring?

extensive experience in ICE's

OTHER: Other reviewer suggested, critical assumptions, unstated risks, overlap or duplication with other programs, etc.

- unstated risks (potential engine technological design barriers)
1. gas dynamic vibrational stability of design
 2. starting problems (potential of)
 3. noise
 4. mixture preparatiu's (type of most devices to be interfaced with engine)

RECOMMENDATION: YES NO Conditional (On what?)

If a contender, ranks 1 among 4 reviewed.

Management: Would you manage through Phase 2? YES NO

Return to Connie Jacobs, ARPA/OASB/DTCC/SBIR, 3701 N. Fairfax Drive, Arlington, VA 22203-1714. For questions: Carl Nelson 703-695-9695. Fax reviews to 703-696-2207/2208, but don't expect to get a clear line on the last day. DEADLINE: 24 NOV 93

EVALUATOR: ORGANIZ: PHONE: