

Long Sault, Inc., Maine Electric Power Company, Maine Public Service, Eastern Maine Electric Cooperative, Minnesota Power and Light, Minnkota Power, New York Power Authority, Niagara Mohawk Power Corporation, Northern States Power and Vermont Electric Transmission Company. The construction of each of the international transmission facilities to be utilized, as more fully described in the application, has previously been authorized by a Presidential permit issued pursuant to Executive Order 10485, as amended.

#### Procedural Matters

Any person desiring to become a party to this proceeding or to be heard by filing comments or protests to this application should file a petition to intervene, comment or protest at the address provided above in accordance with §§ 385.211 or 385.214 of the FERC's Rules of Practice and Procedures (18 CFR 385.211, 385.214). Fifteen copies of each petition and protest should be filed with the DOE on or before the date listed above.

Comments on the Dominion Resources application to export electric energy to Canada should be clearly marked with Docket EA-224. Additional copies are to be filed directly with Michael C. Regulinski, Esq., Virginia Electric and Power Co, 1 James River Plaza, 701 East Carey Street, Richmond, Virginia 23219 and James H. McGrew, Esq., Bruder, Gentile & Marcoux, LLP., 1100 New York Avenue, N.W., Suite 510 East, Washington, D.C. 20005-3934.

A final decision will be made on this application after the environmental impacts have been evaluated pursuant to the National Environmental Policy Act of 1969 and a determination is made by the DOE that the proposed action will not adversely impact on the reliability of the U.S. electric power supply system.

Copies of this application will be made available, upon request, for public inspection and copying at the address provided above or by accessing the Fossil Energy Home Page at <http://www.fe.doe.gov>. Upon reaching the Fossil Energy Home page, select "Regulatory," then "Electricity," and then "Pending Proceedings" from the options menus.

Issued in Washington, DC, on June 5, 2000.

**Anthony J. Como,**

*Deputy Director, Electric Power Regulation, Office of Coal & Power Im/Ex, Office of Coal & Power Systems, Office of Fossil Energy.*

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BILLING CODE 6450-01-U

## DEPARTMENT OF ENERGY

### Notice of Solicitation for Financial Assistance Applications for Cooperative Research and Development for Advanced Natural Gas Reciprocating Engines

**AGENCY:** Chicago Operations Office, Department of Energy.

**ACTION:** Notice of solicitation availability.

**SUMMARY:** The Department of Energy (DOE) announces its interest in receiving applications for federal assistance for research and development of Advanced Natural Gas Reciprocating Engines. Development, subsystem testing, and demonstration of optimized and fully integrated components for advanced natural gas engines must be performed.

**DATES:** The solicitation document is available on the Internet. The due date for applications is July 31, 2000.

**ADDRESSES:** The solicitation is available on the Internet by accessing the DOE Chicago Operations Office Acquisition and Assistance Group home page at <http://www.ch.doe.gov/business/acq.html> under the heading "Current Solicitations", Solicitation No. DE-SC02-00CH11029. Completed applications referencing Solicitation No. DE-SC02-00CH11029 must be submitted to the U.S. Department of Energy, Chicago Operations Office, Communications Center, Building 201, Room 168, 9800 South Cass Avenue, Argonne, IL 60439-4899, Attn: Nadine S. Kijak, Acquisition and Assistance Group.

**FOR FURTHER INFORMATION CONTACT:** Nadine S. Kijak at 630/252-2508, U.S. Department of Energy, Chicago Operations Office, Acquisition and Assistance Group, 9800 South Cass Avenue, Argonne, IL 60439-4899, by facsimile at 630/252-5045, or by electronic mail at [nadine.kijak@ch.doe.gov](mailto:nadine.kijak@ch.doe.gov)

**SUPPLEMENTARY INFORMATION:** For purposes of this solicitation, an Advanced Natural Gas Reciprocating Engine is a new or upgraded internal combustion reciprocating piston engine that deploys one or more technologies that partially or totally accomplish the following goals for higher energy efficiency (ultimate program target goal of 50%), lower emissions (NO<sub>x</sub> less than .1g/hp-hr), and increased competitiveness. The fully-developed, demonstrated Advanced Natural Gas Reciprocating Engine would accomplish the following objectives:

1. Improve the performance of Advanced Natural Gas Reciprocating Engines. Potential benefits to energy consumers include: (1) Decreased energy consumption and emissions; (2) increased manufacturing process efficiencies; (3) enhanced U.S. industrial competitiveness; (4) decreased reliance on strategic materials; and (5) reduced operational and maintenance costs. Other projected benefits may include longer operating time before maintenance and overhaul, utilization of waste fuels, *etc.*

2. Transition the technology to back-up fuels as well as alternative biomass-derived fuels, while achieving a substantial reduction in oxides of nitrogen (NO<sub>x</sub>) emissions for these fuels, and decrease in energy consumption.

3. Demonstrate the durability for up to 8000 hours while otherwise maintaining reliability, availability, and maintainability of the Advanced Natural Gas Reciprocating Engine and its component subsystems.

4. Incur no negative impacts on the performance of gas engines including efficiency, fuel flexibility, cost of power, and reliability and maintainability.

5. Encourage adoption and use of energy-efficient, cost-effective natural gas engines by the distributed generation markets.

The Scope of Work covers applied research and pre-commercial demonstration in five work areas as described below as Tasks 1, 2, 3, 4 and 5. In addition to these tasks, the Scope of Work includes Subtasks A and B. Subtask A will require the Participant to provide a report covering the potential technical market and technical/economic barriers. Subtask B will require the Participant to provide a commercialization plan for Advanced Natural Gas Reciprocating Engines.

The tasks represent an increasing progression of maturation stages for technology development. Task 1 involves component development and testing; Task 2 involves system development and testing; Task 3 involves engine integration and preparation; Task 4 involves engine system fabrication and proof test, and Task 5 involves pre-commercial demonstration. Depending on current maturation of proposed technologies, the work may start at any task if prior work has been performed that would satisfy completion or sufficient progress of the previous task(s). Applications may address any combination or portions of the tasks.

The ultimate maturation of technologies will be reached upon the attainment of the solicitation objectives

in a pre-commercial demonstration of 8000 hours (Task 5). Although it is the intention of this solicitation to support development of advanced engine technologies that will so culminate, there also is relevancy in gaining a better understanding of the advanced engine technologies and their impact on natural gas engines. In such a case, development of a completed commercial system may not be feasible. For example, development may end prior to the maturation state of Task 5, or Task 5 may be scheduled to complete less than the 8000 hours (but more than 4000 hours as discussed below) identified as a goal for commercialization.

Regardless of the tasks proposed, applications will raise the maturation level of the concept relative to the solicitation objectives.

Under Tasks 1 and 2 that follow, the work may be performed with respect to test devices or engines that could serve as a logical and cost effective intermediate basis for developing technologies for Advanced Natural Gas Reciprocating Engines. However, any such technology developed under Tasks 1 and 2 must have applicability to Advanced Natural Gas Reciprocating Engines.

Under Tasks 3, 4 and 5 that follow, all work must be performed with respect to Advanced Natural Gas Reciprocating Engines, and the demonstration required under Task 5 must be performed on an Advanced Natural Gas Reciprocating Engines. All work proposed to be performed under an application must be scheduled for completion within the five-year life expectancy of this program. Work under all tasks requires the participation of a natural gas engine manufacturer.

#### **Task 1**

The starting point of this task shall be, as a minimum, a concept of an advanced engine technology with prior experimental evidence of its potential for meeting the solicitation objectives. The Participant will identify the form, function, and fit of all components necessary to execute the proposed technology. The Participant will also develop preliminary component designs. First article components will be constructed and tested at a scale suitable to confirm the design parameters that were used and to give qualitative and quantitative indications that the components will perform as planned.

#### **Task 2**

The Participant will complete detailed designs of the selected system

components. The design process will include the optimization and cost reduction of the processing, fabrication, and integration of the selected components into a viable engine system. The components will be manufactured and the sub-system will be assembled. Development and testing will be done to verify and optimize the overall approach, to provide operating and control parameters during manufacture and use, and to provide full-scale definition such as allowable engine operating ranges, sensitivity to fuel variability, and other factors affecting the performance and competitiveness of the engine system.

#### **Task 3**

The design of an Advanced Natural Gas Reciprocating Engine will be adapted in parallel to component development to assure compatibility, optimum fit, and functionality. The work under this task will integrate hardware, controls, and operating procedures for startup, steady operation over the engine's usual power range (for example 50% to 100% of rated output), planned changes (such as anticipated shutdown or transitions of operating load), and unexpected changes in power output (such as lost load).

#### **Task 4**

The Participant shall design and fabricate a complete engine system that utilizes the components developed under Task 2 or elsewhere. The components shall exhibit the form, function, and fit compatible with the modified engine developed either under Task 3 or elsewhere. The Participant shall prove, either by subsystem rig testing or by demonstrating on an engine, the ability of the subsystem components to perform as planned. Such testing shall include those sensors and controllers needed to maintain testing over the design operating range of the engine. Test results shall include relationships among performance, efficiency, emissions, temperatures, and all other relevant parameters that quantify and qualify the system for commercial delivery. The proof testing shall be based on natural gas fuel or any other fuel with a viable market presence in the distributed generation market such as waste fuels and biomass. Also, the market may require dual fuel capabilities. Such dual fuel capabilities may be considered in the design.

The completion of Task 4 would result in the assembly of an Advanced Natural Gas Reciprocating Engine that incorporates components completed under this task or elsewhere. The engine shall be ready for insertion into a

commercial package that is suitable for shipment, installation, and demonstration in the field under Task 5.

#### **Task 5**

A host site(s) will be selected for demonstration of the Advanced Natural Gas Reciprocating Engine qualified either by the completion of Task 4 or elsewhere. The Participant will integrate the engine with the balance of plant equipment such as a generator that is compatible with the needs of a specific host site(s). The completion of Task 5 would result in an 8000-hour demonstration of the engine that can be reasonably expected to meet project objectives. At a minimum, the demonstration shall comprise 4000 hours of operation with natural gas fuel at a host site that is compatible with an operating rate of at least 4000 hours per annum. The applicant shall complete a coordinated plan for the demonstration that incorporates the perspectives of all relevant parties, including the host site. The plan will also assign responsibilities on all matters necessary to execute the demonstration plan, such as business arrangements, balance of plant equipment, site construction, site integration, periodic inspections of hardware, visitations of third parties, data acquisition at the host site to verify expected benefits, and obtainment of environmental, construction, operating, and other permits.

The demonstration shall be representative of significant market segments of the distributed power generation industry. As a result, the successful demonstration at the host site will be expected to exemplify the resolution of the typical barriers (such as technical, environmental, industry acceptance, and utility grid control issues) that impede the widespread adoption of distributed generation. In this regard, all hours of operation accumulated under the demonstration shall be gained while generating electric power. Additionally, all such hours of operation shall be accumulated while the host site is interconnected to the existing local utility transmission and distribution grid that exists for the routine transmission and distribution of electric power. Accordingly, the balance of plant equipment shall be sufficient to generate and condition such electric power, and all hardware shall be provided for interconnection, transmission, and distribution on the local utility grid. (The sole use of isolation switches shall not be sufficient to meet this requirement.)

**Subtask A**

Subtask A is required for any applicant selected for award and is to be performed in conjunction with the lowest numbered task proposed. The completed report must be received within 90 days of award of the cooperative agreement and will be submitted in accordance with topical report requirements. Relative to gas engine(s), the Participant will do program definition and planning studies that identify all essential steps for enabling the use of an Advanced Natural Gas Reciprocating Engine and meeting the objectives of this solicitation. The elements of these steps will include the critical research and development needs, areas and degree of risk, types and quantities of resources, schedule, and cost.

The report will further define completed distributed energy resource and/or cooling, heating and power systems likely to be available at the successful completion of this project. The Participant will identify and quantify the potential technical markets for such systems. In areas such as energy efficiency, performance, cost, and emissions, the Participant will provide detailed rationale that supports these projections. All barriers such as the lack of uniform code standards that will impact on the technical market will be identified. However, any such barriers that are out of the control of the Participant shall be deemed not to impact on the projected technical market.

**Subtask B**

Subtask B is required to be performed in conjunction with the lowest numbered task of Tasks 3, 4, and/or 5 under which the Participant will do work. The completed report must be received within 180 days of initiation of the lowest numbered Task (3-5) proposed. This report will be submitted in accordance with topical report requirements.

The main impetus for this work is the commercial implementation of an efficient, clean, and cost effective Advanced Natural Gas Reciprocating Engine that is deployed in distributed generation and combined heat and power systems. It is essential that a commercialization plan support the proposed Advanced Natural Gas Reciprocating Engine and achieves the goals of this solicitation (Section 1.1.2). Participants doing work under Tasks 3, 4, or 5 shall complete commercialization plans and strategies for all relevant functions in the commercialization process such as cost-

effective manufacturing, marketing, production volumes, and support for the Participant's engine system.

DOE expects to award three (3) to five (5) cooperative agreements under this solicitation. It is estimated that individual awards will range in value between approximately \$500,000 and \$10,000,000 of DOE funding and will require awardee Cost Sharing.

A minimum non-federal cost sharing commitment of 30% of the total proposed costs for Tasks 1 or 2; 45% of Tasks 3 and 4; and 60% of Task 5 is required. Any non-profit or for-profit organization, university or other institution of higher education, or non-federal agency or entity is eligible to apply, unless otherwise restricted by the Simpson-Craig Amendment. DOE Laboratory participation as a subcontractor is limited to no more than 50% of the cost of any individual task under which the laboratory participates. This amount is further limited to 40% if laboratory participation is proposed under Task 5.

As applicants may apply under one or more of the five tasks within the solicitation Scope of Work, there is a range in the number of potential awards and award values.

Estimated DOE funding is \$40 million over the five-year period. DOE reserves the right to fund any, all, or none of the applications submitted in response to this solicitation. All awards are subject to the availability of funds.

Issued in Argonne, Illinois on June 1, 2000.

**John D. Greenwood,**

*Acquisition and Assistance Group Manager.*

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**BILLING CODE 6450-01-P**

**DEPARTMENT OF ENERGY****Office of Energy Efficiency and Renewable Energy****Agency Information Collection Activities: Proposed Collection; Comment Request**

**AGENCY:** Department of Energy.

**ACTION:** Notice of proposed Agency information collection and request for comments.

**SUMMARY:** The Department of Energy (DOE) invites public comment on a proposed information collection that DOE is developing for submission to the Office of Management and Budget (OMB), pursuant to the Paperwork Reduction Act of 1995. This collection would gather information over a three-year period from participants in the Industrial Assessment Center (IAC)

Program (specifically clients, alumni and web-site users), concerning details of energy, waste, production and cost savings generated through their participation in IAC assessments, or through their use of IAC-sponsored web-sites.

**DATES:** Written comments must be submitted by August 14, 2000. If you anticipate difficulty in submitting comments within that period, contact the person listed below as soon as possible.

**ADDRESSES:** Written comments may be sent to M. Martin, Oak Ridge National Laboratory, PO Box 2008, MS-6070, Oak Ridge, TN 37831-6070; or by FAX at (865) 574-9338; or by e-mail at martinma@ornl.gov.

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the forms and instructions should be directed to M. Martin using the contact information listed above.

**SUPPLEMENTARY INFORMATION:**

*Collection Title:* Impact Evaluation of IAC Program Participants: Clients, Alumni and Web-users.

*OMB Control Number:* None.

*Type of Request:* New collection.

*Frequency of response:* One time only.

*Respondents:* IAC Program clients, alumni and web-users (businesses and individuals).

*Estimated number of annual respondents:* 570.

*Estimated total annual burden hours:* 355 hours.

**Background**

The Department of Energy, as part of its effort to comply with the Paperwork Reduction Act of 1995 (Pub. L. 104-13, 44 U.S.C. Chapter 35), provides the general public and other Federal agencies with opportunities to comment on collections of information conducted by or in conjunction with DOE. Any comments received help the Department to prepare data requests that maximize the utility of the information collected, and to assess the impact of collection requirements on the public. Also, DOE will later seek approval by the Office of Management and Budget (OMB) of the collections under Section 3506(c) of the Paperwork Reduction Act of 1995.

Data will be collected from IAC participants concerning energy, waste, productivity and cost savings generated through their participation in IAC assessments or through their use of technical information provided by IAC-sponsored web-sites. Data will be collected from clients, program alumni, and IAC web-users using either electronic, web-based surveys or telephone interviews. The data will