



## SUSTAINING OKLAHOMA'S ENERGY RESOURCES

### SYNOPSIS OF PROGRAM

Sustaining Oklahoma's Energy Resources was established to encourage new processes and technological advancements to sustain the oil and natural gas industry for the benefit of the citizens of Oklahoma, and to advance activities that support marginally producing oil and natural gas wells.

SOER seeks project grant applications offering multidisciplinary research that will demonstrate emerging technologies for Oklahoma marginal operators. Specifically, research projects are sought that can take field-proven, value-added technology that improves operational efficiency of Oklahoma marginal well operators; student-run projects that focus on oil and gas technologies that help develop the next generation of Oklahoma operators; and public information that is localized and democratized to help Oklahoma marginal well operators to quickly and efficiently find geoscience, natural resource and operational information.

#### **AGENCY CONTACTS:**

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#### **I. AWARD INFORMATION**

It is anticipated that up to \$600,000 will be awarded under this announcement, depending on the availability of funds, quality of applications received and other applicable considerations. SOER anticipates funding four or more awards under this Request for Application (RFA). Requests for amounts in excess of a total of \$300,000, including direct and indirect costs, will not be considered. The total project period requested in an application submitted for this RFA may not exceed 3 years.

SOER, at its sole discretion, reserves the right to reject all applications and make no awards or make fewer awards than anticipated. SOER reserves the right to make additional awards if additional funding becomes available after the original selections are made.

In appropriate circumstances, SOER, at its sole discretion, reserves the right to partially fund proposals/applications by funding discrete portions or phases of proposed projects.

#### **II. ELIGIBILITY INFORMATION**

##### **ELIGIBLE APPLICANTS**

This solicitation is available to each State, territory and possession, and Tribal nation of the U.S., including the District of Columbia, public and private universities and colleges, hospitals, laboratories, State and local government departments, other public or private nonprofit institutions, and businesses offering new technology or information accessibility to Oklahoma marginal well producers.

Eligible nonprofit organizations include any organizations that: (1) are operated primarily for oil and natural gas, scientific, educational, service, charitable or similar purposes relevant to the oil and natural gas industry; (2) are not organized primarily for profit; and (3) use its net proceeds to maintain, improve and/or expand its operations.

#### **III. EXPECTED OUTPUTS AND OUTCOMES**

The term "output" means an activity, effort and/or associated work products, aligned with the goals of SOER and intended to benefit the marginal well operators in Oklahoma. This output may be produced or provided over a period of time or by a specified date. The term "outcome" means the result, effect or consequence that will occur from carrying out said output.

Expected outputs could include databases, decision support tools, models, demonstrations and case studies, reports, presentations and peer-reviewed journal publications pertaining to the subject at hand.

Expected outcomes could include improved operational efficiencies of Oklahoma marginal well operators; increased production and/or increased reserves recovery; oil and natural gas technology studies that help develop the next generation of Oklahoma operators; and public information that is localized and democratized to help Oklahoma marginal well operators to quickly and efficiently find geoscience, natural resource and operational information.

To the extent practicable, research proposals must embody innovation and sustainability. Innovation for the purposes of this RFA is defined as the process of making changes, a new method, custom or device. Innovative research can take the form of wholly new applications or applications that build on existing knowledge and approaches for new uses. The concept of sustainability is to create and maintain conditions that meet the needs of the present without compromising the ability of future generations to meet their own needs. SOER will draw from all of the above-mentioned innovation and sustainability definitions in the review/evaluation process of recommending research proposals.

#### **IV. SPECIAL REQUIREMENTS**

The application should include a plan to make available all data generated from observations, analyses or model development used under an agreement awarded from this RFA. The data must be available in a format and with documentation such that they may be used by others in the oil and natural gas community.

These awards may involve the collection of "Geospatial Information," which includes information that identifies the geographic location and characteristics of natural or constructed features or boundaries on the earth, or applications, tools and hardware associated with the generation, maintenance or distribution of such information. This information may be derived from, among other things, a Geographic Positioning System (GPS), remote sensing, mapping, charting and surveying technologies, or statistical data.

## V. APPLICATION AND SUBMISSION INFORMATION

### A. SUBMITTAL REQUIREMENTS AND LIMITED EXCEPTION PROCEDURES

If an applicant does not have the technical capability to complete the application form found on [soer.oerb.com](http://soer.oerb.com) in a non-handwritten format and apply electronically by emailing the application and other required documentation to [mvoice@soerok.com](mailto:mvoice@soerok.com), the applicant must contact Melanie Voice at [mvoice@soerok.com](mailto:mvoice@soerok.com), 405-601-2190, or at the address listed below in writing to request approval to submit their application materials through an alternate method.

Mailing Address:  
SOER  
Melanie Voice  
500 NE 4th Street  
Oklahoma City, OK 73104

### B. CONTENT AND FORM OF APPLICATION SUBMISSION

The application is made by submitting the materials described below. Applications must contain all information requested and be submitted in the formats described.

#### 1. PROJECT ABSTRACT (Maximum 1 Page)

The abstract is a very important document in the review process, therefore, it is critical that the abstract accurately describes the research being proposed and conveys all the essential elements of the research. Also, the abstracts of applications that receive funding may be posted on [soer.oerb.com](http://soer.oerb.com).

- a. Project Title: Use the exact title of your project as it appears in the application. The title must be brief yet represent the major thrust of the project.
- b. Institution(s): List the name, city and state of each participating university or institution. The lead institution applying for assistance must be clearly identified and state the specific role it will take.
- c. Project Period and Location: Show the proposed project beginning and ending dates and the performance site(s)/geographical location(s) where the work will be conducted.
- d. Project Readiness: Identify the readiness level of the technology being demonstrated utilizing the API TRL Scale.
- e. Project Cost: Show the total funding for all years requested from SOER and other entities. This may include salaries, equipment and/or other funding costs.
- f. Investigators: Identify the Principal Investigators and Co-Investigators, and provide a brief overview of the research experience of all investigators responsible for the preparation, conduct and administration of the research grant.
- g. Project Summary: Provide three subsections addressing: (1) the objectives of the study (including any hypotheses that will be tested), (2) the experimental approach to be used (a description of the proposed project), and (3) the expected results (outputs/outcomes) of the project and how it addresses the research needs identified in the solicitation, including the estimated improvement in risk assessment or risk management that will result from successful completion of the proposed work.

#### 2. RESEARCH PLAN (Maximum 5 Pages)

Applications should focus on a limited number of research objectives. Explicitly state the main hypotheses that you will investigate, the data you will create or use, the analytical tools you will use to investigate these hypotheses or analyze these data, and the results you expect to achieve.

- a. Objectives: List the objectives of the proposed research and the hypotheses being tested during the project, and briefly state why the intended research is important and how it fulfills the requirements of the solicitation. This section should also include any background or introductory information that would help explain the objectives of the study.
- b. Approach/Activities: Outline the research design, methods and techniques that you intend to use in meeting the objectives stated above.
- c. Innovation: Describe how your project shifts current research or engineering paradigms by using innovative theoretical concepts, approaches or methodologies, instrumentation or interventions applicable to one or more fields of research.
- d. Sustainability: Describe how your project embodies the principles of sustainability and seeks sustainable solutions to create and maintain conditions that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- e. Expected Results, Benefits, Outputs and Outcomes: Describe the expected outputs and outcomes resulting from the project. A clear, concise description will help SOER to understand the merits of the research.
- f. Project Management: Discuss other information relevant to the potential success of the project. This should include facilities, personnel expertise/experience, project schedules with associated milestones and target dates, proposed management, interactions with other institutions, etc. Describe the approach, procedures and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner, and detail how project objectives will be successfully achieved within the grant period. Describe how progress toward achieving the expected results (outputs and outcomes) of the research will be tracked and measured.

3. **DATA PLAN** (Maximum 2 Pages)  
Development or operation of technology:
  - a. Describe the overall purpose and anticipated impact of the technology.
  - b. Describe the technical and quality specifications of each technology component or process that is to be designed, fabricated, constructed and/or operated.
  - c. Discuss the procedure to be used for documenting and controlling design changes.
  - d. Discuss the procedure to be used for documenting the acceptability of processes and components, and discuss how the technology will be benchmarked and its effectiveness determined.
  - e. Discuss the documentation requirements for operating instructions/guides for maintenance and use of the system(s) and/or process(s).
  - f. Discuss data management activities (e.g., record-keeping procedures, data-handling procedures, and the approach used for data storage and retrieval on electronic media). Include any required computer hardware and software, and address any specific performance requirements for the hardware/software configuration used.
4. **PROJECT EVALUATION** (Maximum 2 Pages)  
A systematic and objective assessment of the ongoing or completed project.
  - a. How will your team evaluate the impact of the project? Will this be done internally or by an outside consultant?
  - b. How does your team use the information collected in the evaluation to improve the quality of your team's work and enable learning within and outside your organization?
  - c. How will the design of this project and your organization's strengths help your team meet its project objectives?
  - d. What are the difficulties and risks (internal and external) that threaten the project? How will your team manage these?
  - e. Are there particular opportunities that make your project advantageous or that make its timing crucial?
  - f. Are there future opportunities that might result from this project?
5. **QUANTITATIVE EVALUATION**
  - a. Explain data collected and their statistical treatment as well as all relevant results in relation to the research project.
  - b. Report unanticipated events that occurred during data collection. Explain how the actual analysis differs from the planned analysis. Explain your handling of missing data and why any missing data does not undermine the validity of your analysis.
  - c. Explain the techniques you used to clean your data set.
  - d. Describe the assumptions for each procedure and the steps you took to ensure they were not violated.
  - e. Use tables to provide exact values; use figures to convey global effects.
  - f. Explain the local and federal impact (size of the prize) of the technology in terms of Net Present Value.
6. **EVALUATION CRITERIA**  
Preference will be given to applicants that have partnered with a marginal well producer(s) to demonstrate the product, service or technology.

## VI. APPLICATION REVIEW INFORMATION

### A. SOER RESEARCH & TECHNOLOGY COMMITTEE REVIEW

All eligible grant applications are reviewed by the SOER Research & Technology Committee based on the criteria and process described below.

All reviewers will receive electronic copies of the application package as provided by the applicant. The Research & Technology Committee will then meet to review and discuss the applications. Following, the SOER Committee will meet where each member of the Research & Technology Committee can make a recommendation to award a grant, which will be followed by a vote of all members.

Reviewers consider an application's merit based on the extent to which their application demonstrates the criteria below.

1. **RESEARCH MERITS**
  - a. The degree to which the application demonstrates that the research or technology is original and contributes to the needs of Oklahoma marginal well producers.
  - b. The degree to which the application demonstrates that the project results will produce benefits to Oklahoma marginal well producers and will be disseminated to enhance technological understanding.
2. **RESPONSIVENESS**
  - a. The degree to which the application demonstrates that the research is responsive to the objectives, research needs and special considerations specified by the RFA.
3. **PROJECT MANAGEMENT**
  - a. Management: The degree to which the application demonstrates that the project will be adequately managed to ensure the timely and successful achievement of objectives using appropriate project schedules and milestones. And the degree to which the application demonstrates the applicant will adequately track and measure progress toward achieving expected results (outputs and outcomes).
  - b. Resources and Cost Controls: The degree to which the application demonstrates that the facilities, equipment and budget are appropriate, adequate and available. And the degree to which the application demonstrates that well-defined and acceptable approaches, procedures and controls are used to ensure timely and efficient expenditure of awarded grant funds.
4. **OTHER FACTORS**
  - a. Innovation: The degree to which the application demonstrates that the research will challenge and seek to shift current research or engineering paradigms by using innovative theoretical concepts, approaches or methodologies, instrumentation or interventions applicable to one or more fields of research.
  - b. Sustainability: The degree to which the application demonstrates that the research will embody the principles of sustainability and seek sustainable solutions to create and maintain conditions that meet the needs of the present without compromising the ability of future generations to meet their own needs.

## **B. FUNDING DECISIONS**

Final funding decisions are made by the SOER Committee based on the results of the Research & Technology Committee review and recommendation. In addition, in making the final funding decisions, the SOER Committee may also consider program balance and available funds. Applicants selected for funding will be required to provide additional information listed below under "Reporting."

## **VII. AWARD ADMINISTRATION INFORMATION**

### **A. AWARD NOTICES**

Customarily, applicants are notified of an award after a presentation to the SOER Committee. The official notification of an award will be made by the SOER Director.

### **B. REPORTING**

A grant recipient must agree to provide and present semi-annual performance progress reports, with associated summaries, and a final report with an executive summary. The summaries may be posted on SOER's website. The reports and summaries should be submitted electronically to [mvoice@soerok.com](mailto:mvoice@soerok.com).

A grant recipient must agree to provide copies of, or acceptable alternate access to (e.g., web link), any peer-reviewed journal article(s) resulting from the research during the project period. In addition, the recipient should notify SOER of any papers published after completion of the grant that were based on research supported by the grant.

### **C. INTELLECTUAL PROPERTY**

SOER constituents (current and future) shall receive the first right of refusal and best-price guarantee for any technology initially deployed and commercialized resulting from a grant awarded for technology development by the SOER Committee. In exchange for these rights, SOER has funded all or a portion of said technology and agrees to help facilitate and support a field test for the grant recipient by SOER members. These conditions will be based on developed Intellectual Property. The same terms carry forward with the technology and apply if the technology is sold to a third party.

### **D. CONFLICTS AND AMENDMENTS**

This application process supersedes all prior and contemporaneous agreements concerning its subject matter. If there is a conflict, this application process will prevail. Except as specifically permitted in this application process, no modification, amendment or waiver of any provision will be effective unless in writing and signed by authorized representatives of both parties.

### **E. ACKNOWLEDGEMENT OF SOER SUPPORT**

SOER's full or partial support must be acknowledged in journal articles, oral or poster presentations, news releases, interviews with reporters and other communications. Any documents developed under this agreement that are intended for distribution to the public or inclusion in a scientific, technical or other journal shall include the following statement:

This publication [article] or project was developed under a grant awarded by Sustaining Oklahoma's Energy Resources (SOER) to [name of recipient]. The views expressed in this document are solely those of [name of recipient or names of authors] and do not necessarily reflect those of the Agency. SOER does not endorse any products or commercial services mentioned in this publication.