



Development
Services Agency

John R. Kasich, Governor

David Goodman, Director

Ohio Coal Development Office

Ohio Coal Demonstration and Pilot Program Request for Proposals (RFP)

RFP Number: DEV18OCA03

- Posting Date January 19, 2018
- Inquiry Period January 19, 2018 – March 5, 2018
- Full Proposals Due March 12, 2018
- Successful Projects Announced May/June 2018
- Estimated Project Start/Effective Date June/July 2018

Submit Proposals to:

Ohio Development Services Agency
Ohio Coal Development Office
Attention: Ohio Coal Demonstration and Pilot RFP
77 South High Street, 26th Floor
Columbus, Ohio 43215

The RFP consists of six (6) sections totaling twenty-two (22) consecutively numbered pages and seven (7) attachments, totaling sixty-five (65) pages. Please verify that you have a complete copy.

Table of Contents

Section I. Overview

- A. Background
- B. Areas of Interest
- C. Eligibility
- D. Scale of Project
- E. Review Process

Section II. Award Information

- A. Estimated Funding
- B. Maximum Award Size
- C. Cost-Share
- D. Expected Number of Awards
- E. Period of Performance
- F. Estimated Award Date
- G. Funding Details and Restrictions

Section III. Application Instructions

- A. Proposal Submission Format and Requirements
- B. Communication
- C. Causes for Rejection
- D. Financial and Trade Secret Information

Section IV. Proposal Content

- A. Summary Information Section
- B. Technical Proposal Section
- C. Management and Budget Section
- D. Marketability Section

Section V. Criteria for Selection

- A. Technical
- B. Financial/Experience
- C. Marketability

Section VI. Funding Agreement Requirements

- A. Royalty/Payment Agreement
- B. Award Deliverables
- C. General Terms and Conditions for Project Awards
- D. Grant Agreement Procedure
- E. Obligations to the State; Compliance with Laws

Attachments:

- Attachment 1: Proposal Summary Sheet and Application
- Attachment 2: Exhibit A-3, Project Budget Summary
- Attachment 3: Cost-Share Guidelines
- Attachment 4: Useful Resources
- Attachment 5: List of Current Coal Technical Advisory Committee Members
- Attachment 6: Required On-Line Registrations, Forms and Questions
- Attachment 7: Ohio Coal Research and Development Grant Agreement Template

SECTION I. OVERVIEW

A. Background

The Ohio Coal Development Office (OCDO) was created in 1984 to encourage, promote, and support the Ohio coal industry in the face of environmental regulations that were enacted in the 1960s and 1970s. The OCDO provides funding for coal research, development, and deployment of project-based solutions for new and emerging regulations/challenges facing Ohio's coal industry, while also supporting emerging processes/demonstrations that will help ensure Ohio's coal resources are used effectively, efficiently, and in an environmentally acceptable manner.

The Coal Research and Development Fund (Ohio Revised Code Section 1555.15) is overseen by the Ohio Development Services Agency (ODSA) in accordance with state statute (Ohio Revised Code Sections 1551 and 1555). ODSA is assisted by the Coal Technical Advisory Committee (CTAC), which is comprised of members who serve in the public and private sectors that have a role or interest in the use, conversion, or study of Ohio coal. Current CTAC members are listed in Attachment 5.

The ODSA is issuing this Request for Proposals (RFP) to interested and qualified applicants to submit project proposals focused on expanding the use of Ohio coal in an environmentally acceptable and cost-effective manner. Emission-reducing, economical, and ultimately greater use of Ohio coal and/or its combustion products must be a result of the proposed project. Funds awarded through this RFP will be for projects located and/or for work conducted in Ohio that benefits and/or uses Ohio-mined coal.

Applicants are advised to stay current with the latest air, water, and solid waste regulations that impact electric generation, industrial coal-users, or coal by-products, and on the costs of meeting those regulations, so that projects remain relevant and viable.

B. Areas of Interest

ODSA is interested in developing or advancing technologies in the following areas:

- A. Development/deployment of advanced coal-based power and fuel producing systems (e.g. integrated gasification combined cycle, oxy-combustion systems, chemical looping systems, etc.) which will reduce carbon and other emissions and/or lower their cost of operation;
- B. Improved technologies applicable to coal combustion technology systems: to increase generating efficiency in order to significantly reduce carbon dioxide emissions that also reduces the fixed costs and/or variable operating costs, maintenance costs, or other means for existing and new systems; and to reduce parasitic loads of pollution control technologies;
- C. Cost-effective carbon dioxide capture and sequestration through improving capture technology and development of carbon dioxide transport mechanisms;
- D. Analysis of the costs of retrofitting existing power plants with carbon dioxide capture technologies that are not "carbon capture ready", compared to the costs of retrofitting facilities that are "carbon dioxide capture ready". Must include a commitment of data support from a major Ohio electric utility;
- E. Coal technologies/processes that lower the cost of supplying the energy needs of Ohio's industrial complex;
- F. Cost-effective improved retrofit technologies to reduce emissions of criteria air pollutants, including sulfur dioxide, nitrogen dioxides/oxides, mercury and air toxins;
- G. Improved technologies/processes that enable the more efficient conversion of Ohio coal to a chemical feedstock, liquid, or gas;
- H. Coal combustion products: High volume fly ash and flue gas desulfurization utilization that reduces liability/disposal costs (excluding projects related to agricultural augmentation with

FGD gypsum); These projects must clearly show the economic and annual usage volume advantages over current end uses;

- I. Analysis of the potential impact on the Ohio coal industry of increased electrification of the ground transportation sector and identification of opportunities to advance Ohio coal so that the state can optimize environmental and economic benefits; and
- J. Other projects, certified by the OCDO Director as mission critical.

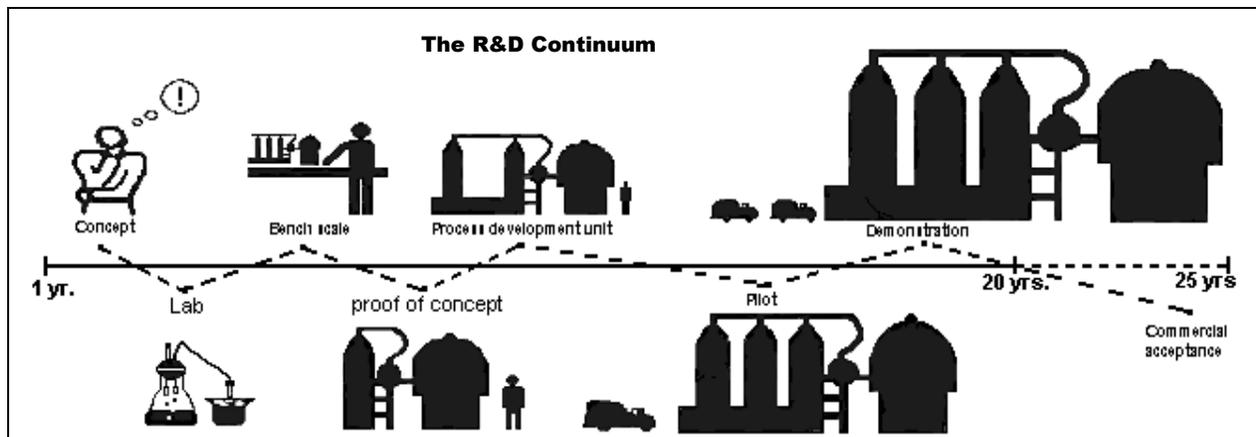
C. Eligibility

ODSA will award funds only to projects that qualify as “coal research and development” as defined in the Ohio Revised Code (Sections 1551 and 1555) and the Ohio Constitution (Section 15, Article VIII). Up to three (3) installations within Ohio of a specific technology is permissible, if such installation is necessary or appropriate to demonstrate commercial acceptability.

Persons (individuals and businesses) doing business in Ohio or educational or scientific institutions located in Ohio are eligible to receive funding under this RFP. Persons not presently doing business in Ohio are also eligible if the grants will be used to establish new businesses in Ohio. Funds received from ODSA must be used to construct pilot plant or demonstration facilities in Ohio, cover operating costs of such facilities in Ohio, and for support of project staff based in Ohio. Project activities conducted out of Ohio by project applicant and participants may be used as cost-share, but must be directly related and integral to the completion of the project.

D. Scale of Project

ODSA can fund projects at all points in the research and development continuum, including lab-based research and bench tests; larger proof-of-concept and process development unit work; pilot-scale projects; demonstration and first-of-a-kind commercial deployment. Projects under this solicitation should be categorized as full-scale, first-of-a-kind deployment, demonstration-scale, pilot-scale, process development unit, proof-of-concept-scale, or paper study. Paper studies are limited to Area of Interest D and I. Paper studies for other Areas of Interest will not be considered. Pilot-scale facilities generally are approximately one-tenth of a typical commercial size. Work to be performed in larger-scale projects should build upon and extend the development of processes or technologies that have already been demonstrated in proof-of-concept or pilot-scale facilities. ODSA reserves the right to re-categorize proposals, if it deems necessary.



E. Review Process

ODSA will conduct technical reviews by its staff and its proposal review team, which is composed of independent, experienced coal professionals under contract with ODSA.

ODSA may find it necessary to seek additional information from an applicant to aid in the review. However, once a proposal is submitted, no supplements will be accepted, unless requested by ODSA. Be certain that the proposal is complete and correct before submission.

Based upon the scores that are received, applicants may be invited to make a short presentation before the CTAC at the next scheduled meeting. The comments of the technical reviewers will be compiled and sent to applicants and the CTAC approximately two weeks before the next scheduled CTAC meeting. Subsequently, the CTAC will determine which proposals it recommends for funding and present those recommendations to the ODSA Director. ODSA will make any grant awards contingent upon full execution of a grant agreement and approval/release of funds from the Ohio Controlling Board.

SECTION II. AWARD INFORMATION

A. Estimated Funding

Approximately \$4.29 million in funding is available under this RFP.

B. Maximum Award Size

The maximum ODSA award for an individual project receiving funding under this RFP will be limited in accordance with the following parameters:

- \$3.0 million for demonstration to full-scale projects
- \$1.5 million for pilot-scale projects
- \$250,000 for proof-of-concept-scale projects
- \$100,000 for paper studies

C. Cost-Share

Applicants are expected to contribute a reasonable amount of cash and/or in-kind funding. ODSA's contribution and maximum cost-share toward a project will generally be based on the anticipated risk and scale of the project. As a guide, in recent years, ODSA award limits have been:

- Up to one-third of the total project cost of demonstration and full-scale projects;
- Up to one-half of the total project cost of pilot-scale projects;
- Up to two-thirds of the total project cost of proof-of-concept scale projects; and
- Up to one-half of the total project cost of paper studies.

For example: If the total project cost for a proof-of-concept scale project is \$350,000, the maximum ODSA share would be \$233,333 and the applicant would be expected to cost-share a minimum of \$116,667.

A commitment letter must be provided for each cost-share participant that is identified in the budget. Commitment letters may not be more than two (2) pages. Commitment letters must adhere to the guidelines outlined in [Attachment 3](#) and the following parameters:

- Be submitted on the letterhead of the participant(s);
- Include the name of the applicant and title of the proposal;
- Briefly state the nature of the collaboration;
- State the duration of the collaboration;
- State the resources the participant(s) is/are committing to the proposed project;
- State how the proposed project will contribute to the strategy of the participant(s);
- State the specific amount of the commitment that matches the cost-share amount on the corresponding budget;
- State the source of the commitment;
- State when the committed resources will be available to the applicant; and
- Be dated and signed by a representative of the participant(s) with the authority to make the cost-share commitment.

The proposal must also contain a letter from an appropriate authority of the potential host site, stating that if this proposal is selected for funding, then the entity authorizes this unit/station as the host site. This letter should also note the estimated in-kind contribution the host site entity will be making to the project. Specifically, this does not include the value of the facility, but rather any labor costs, maintenance costs, etc., that are anticipated to be paid by the host site over the course of the pilot or demonstration's operations.

Other letters are allowed but only if they come from a committed end-user who has a commercial interest in, and can anticipate commercial benefit from, the results of the proposed project. These other letters must describe the anticipated benefit and what advice and support the committed end-user will be providing in the way of market opportunities, knowledge of competing technologies, technological and/or commercial hurdles for the proposed project, and parallel and supportive research efforts. Letters from committed end-users may not be more than two (2) pages and may not include appendices or attachments. General support letters are not allowed. Any such letters submitted will be removed from the Proposal and not transmitted to the external evaluation team.

D. Expected Number of Awards

ODSA expects to make approximately eight to ten (8-10) awards under this RFP.

E. Period of Performance

Grants will cover project activities that will be performed for a period of twelve (12) to twenty-four (24) months.

F. Estimated Award Date

Funding is expected to be announced in May/June 2018.

G. Funding Details and Restrictions

Restrictions include, but are not limited to the following:

1. Equipment is defined as tangible non-expendable personal properly purchased directly by the applicant that is necessary to complete the project and has a useful life of more than one (1) year OR that has an acquisition cost of more than \$1,000 per unit.
2. Personnel expenses are limited to: W-2 employee compensation at the applicant's regular rates.
3. Travel in project budgets is limited to cost-share and will not be eligible for reimbursement from ODSA. All cost-share travel must be directly necessary to complete the project, such as travel to the project site, or travel to a participant. Travel for conferences will not be eligible to be counted as cost-share. Travel expenses counted as cost-share, must be for permissible travel expenses and the costs must be reasonable and consistent with the applicant's established written travel policy. In the absence of an established written policy regarding travel costs, the rates and amounts established under General Services Administration (GSA) must apply to travel cost-share under this award. International travel will not be eligible for counting as cost-share.
4. Supply costs in the project budget are limited to cost-share and will not be eligible for reimbursement from ODSA funds. All supply cost-share is defined as: tangible expendable personal property that is purchased directly by the applicant that is necessary to complete the project with a per unit acquisition cost of less than \$1,000 AND that has a useful life of less than one (1) year.
5. Tuition waivers and tuition support at Ohio colleges and universities must be necessary to complete the work and shall be for students who are currently or will be enrolled at the college/university during the project period.
6. Other charges, such as postage, gases, phone, lab fees, rental fees, etc. are limited to cost-share and will not be eligible for reimbursement from ODSA.
7. Contractual expense must be necessary to complete the project, and are defined as any service agreement or contract that is made between an outside entity and the applicant that completes any portion of the project. Copies of executed contracts/service agreements must be submitted with the proposal or prior to reimbursement of any contractual expense billed to ODSA.

8. Indirect charges cannot exceed the applicant's most recent federally approved indirect rate for research and must only be charged on direct expenses billed to ODSA. Indirect charges on cost-share will not be eligible for reimbursement by ODSA. Indirect charges on cost-share can only be eligible for counting as cost-share.
9. Applicants may not submit the same project to ODSA more than once per funding cycle. This includes submitting the same project to both the Demonstration and Pilot Program RFP and the Ohio Coal Research Consortium. Whichever application is received later will be rejected and returned to the applicant.
10. No pre-award, proposal preparation or grant negotiation costs are eligible for reimbursement with ODSA funds, nor countable as cost-share, no expenses for lobbying before or during the grant agreement period are eligible for reimbursement with ODSA funds.
11. Awards are dependent upon the issuance of General Obligation bonds by the state of Ohio. ODSA can only make awards when the State of Ohio's Treasurer has deposited sufficient monies in the Coal Research and Development Fund from those General Obligation bond proceeds.

SECTION III. APPLICATION INSTRUCTIONS

A. Proposal Submission Format and Requirements

Submission format and requirements include:

- One (1) original paper copy marked as "Original," three (3) additional paper copies marked "Copy", and one (1) CD containing both an unlocked PDF and a word file of the proposal, sent to:

**Ohio Development Services Agency
Ohio Coal Development Office
Attention: Ohio Coal Demonstration and Pilot RFP
77 South High Street, 26th Floor
Columbus, Ohio 43215**

- Proposals must be received at the location specified above by 5pm of the last day proposals are accepted.
- Proposals may not be submitted by fax or email.
- Proposals are to be submitted on 8.5 x 11-inch paper.
- Margins must not be less than $\frac{3}{4}$ of an inch on all sides.
- Font must be 11-point or larger with no more than six (6) lines per inch.
- All pages must be numbered consecutively using the format —Page [#] of [total number of pages] (e.g., Page 2 of 25).
- The proposal title and applicant name must appear at the bottom of each page.
- Proposals should not include color figures that cannot be understood when photocopied in black and white.
- Proposals must be stapled once in the upper left-hand corner and must not be bound.
- Proposals must include the required proposal summary sheet and application (Attachment 1), cover letter, the project budget summary (Attachment 2), all other required forms and responses to all questions found in Attachment 6.

Applicants are advised there will be no opportunity to correct mistakes or deficiencies in proposals after the submission deadline. Further, incomplete or late proposals will not be scored. It is the applicant's responsibility to ensure timely submission of a complete proposal. ODSA is under no obligation to consider a proposal which is incomplete or is submitted after the RFP deadline. No supplementary or revised materials will be considered after the scheduled date for submission unless specifically requested by ODSA.

All information submitted in response to this RFP shall be public information unless a statutory exception exists which would exclude the information from being released to the public. All proposals submitted will become the property of ODSA and any information submitted in response to this RFP will not be returned to the applicant.

ODSA reserves the right to:

- Accept or reject any and all proposals;
- Reissue the RFP requesting new proposals from qualified applicants;
- Waive or modify minor irregularities in proposals received;
- Negotiate with applicants, within the requirements of the RFP, to best serve the interests of the state of Ohio;
- Require the submission of modifications or additions to proposals as a condition of further participation in the selection process;

- Fund any proposal in full or in part;
- Adjust the dates for whatever reason it deems appropriate; and
- Request additional information/clarification from applicants to assist in the review process.
- Request certain applicants to make a presentation to staff and reviewers.

B. Communication

Prospective applicants may make inquiries or seek clarifications regarding this RFP at any time during the inquiry period listed in the RFP Calendar of Events. To make an inquiry, prospective applicants must use the following process:

1. Access the State Procurement web site at <http://www.ohio.gov/procure>.
2. From the Navigation Bar at the top, select “for Suppliers”.
3. Under the title “Bid Opportunities”, select “All Opportunities”.
4. Enter the RFP Number found on Page 1 of this document as the “Document/Bid Number”.
5. Click the “Search” button.
6. Select this RFP.
7. On the document information page, click the “Submit Inquiry” button.
8. On the document inquiry page, complete the required “Personal Information” section by providing the following:
 - a. First and last name of the prospective applicant’s representative who is responsible for the inquiry;
 - b. Name/Company/Business of the prospective applicant;
 - c. Representative’s business phone number; and
 - d. Representative’s e-mail address.
9. Type the inquiry in the space provided, making certain to include the following:
 - a. A reference to the relevant part of this RFP;
 - b. The heading for the provision under question; and
 - c. The page number of the RFP where the provision can be found.
 - d. Enter the Security Number.
10. Click the “Submit” button.

Prospective applicants submitting inquiries will receive an immediate acknowledgement by email that their inquiry has been received. **The prospective applicant who submitted the inquiry will not receive an email response to the question, but will need to view the response on the State Procurement web site where it will be posted for viewing by all prospective applicants.**

Prospective applicants may view inquiries using the following process:

1. Access the State Procurement web site at <http://www.ohio.gov/procure>.
2. From the Navigation Bar at the top, select “for Suppliers”.
3. Under the title “Bid Opportunities”, select “All Opportunities”.
4. Enter the RFP Number found on Page 1 of this document as the “Document/Bid Number”.
5. Click the “Search” button.
6. Select this RFP.
7. On the document information page, click the “View Q & A” button to display all inquiries with responses submitted to date.

ODSA will try to respond to all properly posed inquiries within 48 hours, excluding weekends and state holidays. ODSA will not respond to any inquiries received after 8 a.m. on March 5, 2018. Prospective applicants who attempt to seek information or clarifications verbally will be directed to reduce their questions to writing in accordance with the terms of this RFP and

state purchasing policy. No other form of communication is acceptable, and use of any other form of communication or any attempt to communicate with ODSA staff or any other agency of the State to discuss this RFP may result in the applicant being deemed ineligible. This includes: no applicant, participant(s), or others acting on their behalf contacting any CTAC member, or ODSA's external evaluators for this RFP during the Proposal Period regarding this RFP (other than through the approved inquiry process identified above). The Proposal Period is considered to be the date of release for this RFP through the date of the ODSA award. Existing grantees responding to this RFP are expected to limit their contact to those ODSA staff with whom they ordinarily interact regarding the administration of Coal Office programs.

If an applicant, participant or others acting on their behalf makes prohibited contact, ODSA, in its discretion, may subject an applicant/proposal to elimination from the RFP process.

C. Causes for Rejection

Only projects that meet all the requirements of the coal demonstration and pilot program as stated herein will be considered for funding. Due to the competitiveness of the program, not all eligible projects will receive awards. ODSA reserves the right to reject any and all proposals, without incurring liability of any kind. Incomplete proposals will be automatically rejected without review.

Other specific causes for rejection without additional review include, but may not be limited to:

1. Project is not a coal research and development technology or facility (as required by Article 8, Section 15 of the Ohio Constitution and defined in chapters 1551 and 1555 of the Ohio Revised Code);
2. Project does not benefit Ohio coal;
3. Project does not use Ohio coal;
4. Project is not located within Ohio or research is not conducted in Ohio;
5. Applicant is ineligible for ODSA funding;
6. The applicant failed to meet all requirements of a previous loan or grant agreement from ODSA or other agency of the state of Ohio;
7. The applicant owes outstanding taxes or other debt to the state of Ohio;
8. The applicant is not able to sustain the project financially;
9. The applicant's team does not have the technical capability to sustain the project;
10. The proposal represents a duplication of effort previously completed or currently underway by another organization (work must not duplicate efforts previously sponsored by U.S. EPA, U.S. DOE, Electric Power Research Institute, or others);
11. The proposal is for a commercially guaranteed, "off-the-shelf" technology for its normal, usual use (however, application of an existing technology in a new, unique, improved manner may be considered);
12. Duplicate application; or
13. Any major exceptions to conditions of the grant award that cannot be resolved quickly.

D. Financial and Trade Secret Information

Any information submitted with the proposal, which the applicant believes is a trade secret as that term is defined in Ohio Revised Code Section 1331.61 or financial or commercial information under Ohio Revised Code Section 122.36, must be conspicuously designated as such and may be treated accordingly.

ODSA has the authority and responsibility to protect and keep confidential trade secrets and other financial or commercial information. In the event that the materials or data submitted are deemed by ODSA to consist of trade secrets or other financial or commercial information, then only those portions of the document will be protected from disclosure by ODSA.

It is sole responsibility of the applicant to conspicuously mark such items as a trade secret or financial or commercial information. Attach a summary sheet in your proposal that lists each page that includes such information and the number of occurrences of such information on that page.

The public abstract must not contain any trade secret or financial or commercial information.

SECTION IV. PROPOSAL CONTENT

This section describes the basic requirements for proposals submitted to ODSA.

The proposal must not exceed 30 pages. Evaluators will only review the first 30 pages of the proposal. ODSA proposals must include the following four sections:

- A. Summary Information
- B. Technical Proposal
- C. Management and Budget Discussion
- D. Marketability Discussion

Specific requirements for these sections are set forth below. The proposal must be typed, paginated, contain a table of contents, and contain attachments as discussed below.

Appendixes to the proposal are to be utilized to validate information within the proposal and should not be utilized as an extension for information required to be addressed in the proposal. Information submitted in the appendices, the cover letter, or in forms required in Attachment 1, 2 and 6 will not count toward the 30-page limit of the proposal.

A. Summary Information Section

This section of the proposal must include three elements:

1. Proposal Summary. Attachment 1 must be completed and attached as the top page of the proposal summary. An authorized representative of the applicant must sign Attachment 1. An original signature, not a stamp, is required. Attachment 1 does not count toward the page limit.
2. Cover Letter. All proposals must also include a cover letter that:
 - a. Affirms that this proposal does not represent a duplication of effort;
 - b. Certifies that the applicant does not owe: (i) any delinquent taxes to the state or a political subdivision of the state; (ii) any moneys to the state or a state agency for the administration or enforcement of any environmental laws of the state; and (iii) any other moneys to the state, a state agency or a political subdivision of the state that are past due, whether the amounts owed are being contested in a court of law or not.
 - c. Acknowledges that the applicant is not in arrears for federal, state or local taxes of any type, and that there are no outstanding liens, levy, lawsuits or investigations of any type pending against the applicant.

If such a certification and/or acknowledgement cannot be provided, the applicant must provide detailed information explaining such delinquent tax, lien, levy, lawsuit, or investigation (as an appendix). The cover letter will need to identify and the appendix will need to fully describe any material litigation to which the applicant is currently a party regarding coal or any type of coal technology over the last three (3) years. The appendix will also need to include a list and describe litigation brought or threatened against the applicant by existing or former clients over the past five (5) years regarding coal or coal technology.

An authorized representative of the applicant must sign the cover letter. An original signature, not a stamp, is required. The cover letter does not count toward the page limit.

3. Public Abstract. A public abstract of approximately 500 words must be included. The abstract must contain the project objective, the specific technology/technique to be studied, a description of the project (including the size and location), the type(s) and tonnage per year of Ohio coal to be used, the applicant and participant(s), the project duration, the total cost and the anticipated contributions of the applicant and each of the project participant(s). This abstract

may be released to the public in whole or in part at any time. It is therefore required that the abstract contain no trade secret data or confidential business information.

B. Technical Proposal Section

This section must include the following:

1. Project Objective. The specific technical objective(s) of the proposed project, its expected results and overall benefits to Ohio coal, to the environment, to the user and/or ratepayer, and to the state-of-the-art, must be clearly and logically detailed. State and explain the targeted technology area that this project covers and explain the potential for increased use/markets for Ohio coal (in tons per year) because of this process or technology.
2. Technical Readiness Discussion. A detailed discussion of the readiness of the technology or techniques for implementation, demonstration or scale-up must include, as appropriate, a thorough discussion of technical achievements and environmental performance to date. Prior applicable work must be summarized, with information on the size, the conditions of operation, and duration of testing. Summarized, but sufficiently detailed data and test results from such work must be included (failure to include hard data from such prior work will jeopardize a proposal's chances for selection). This discussion must also identify all of the significant process/equipment items which have not operated previously at the proposed scale and operating conditions.
3. Technical Approach. The proposal must contain a full description of the technology or technique(s) of the proposed project. At a minimum, the detailed technical discussion must contain:
 - a. Process flow diagrams;
 - b. Energy and mass balances;
 - c. Equipment layout schematics;
 - d. General and unique design specifications;
 - e. A detailed description of quality assurance/quality control procedures to be followed in the project;
 - f. A detailed description of the monitoring and sampling procedures to be followed; and
 - g. A discussion of procedures for establishing baseline data, where appropriate.

The proposal must include a discussion of the unresolved technical, economic and environmental factors that are proposed for investigation in this project, and the target goals this project anticipates reaching. This must include a discussion of the wastes or products generated by the process, and their disposal or reuse. The identified specific technical risks inherent in the project must be described, along with a discussion of the specific evaluation criteria for determining their resolution.

Finally, this section must include a discussion, where appropriate, of the scale-up required in order to move to a larger-sized application. The market commercialization significance of data (technical performance, environmental and economic) obtained in this project should be discussed.

4. Statement of Work. A detailed statement of work is critical to a successful review of a proposal. This is a logically sequenced, detailed step-by-step presentation of the project phases and their work tasks, including major milestones that are necessary in order to successfully complete the work. It is also the basis for negotiations of the grant agreement, should the proposal be accepted for funding. Thorough, complete statements of work will hasten this process and therefore the project's start date.

For **each** of the phases, the following must be specified:

- a. The quantified goal and objective(s) and the general nature of the work to be performed, including the location and the responsible entity(ies);
- b. The sequence and timeline (Gantt) chart showing the tasks, phases and significant milestones, by month. (Describe these as “Month 1,” “Month 2,” not “November,” “December.”) The timeline/Gantt chart should show all work tasks and all reporting deliverables, including a draft final report due 60 days prior to the Project Completion Date, and a revised final report by the Project Completion Date;
- c. A detailed description of the major tasks which comprise the phase, and, where applicable, a description of the diagnostic and data collection equipment and techniques which are part of the task. Test matrices should be included where appropriate;
- d. A discussion of the evaluation parameters that are proposed for assessing the results and success of the work in the phase;
- e. A description of the deliverables and accomplishments resulting from the completion of the phase; and
- f. The estimated cost of the phase.

C. Management and Budget Section

This section of the proposal must include the following elements:

1. Project Participants. All participants in the proposed project must be identified. For each, the institution or company name, address, contact person, telephone number and email address must be specified. The role and extent of participation of each entity, both technical and financial, including all participants and sub-contractors must be described.
2. Project Personnel. The proposal must include for the applicant and each of the participants, key project personnel, their general duties and responsibilities, and their qualifications relative to this project (e.g., résumé or *curriculum vitae*). Extensive *curriculum vitae* are discouraged.
3. Project Management Experience and Capability. The experience (including results) of the prime sponsor with projects involving similar or related technologies or techniques, and other projects of similar complexity and scale must be described. This should include relevant experience in the development of commercial technologies preceded by pilot or demonstration plant work. Applicants must describe the capability of their organization to manage a project or technology of the scale and complexity proposed technically, fiscally and financially, as well as to ultimately market it commercially.
4. Detailed Project Budget. All applicants and participants are expected to provide significant and meaningful cost-share. The budget discussion must describe the type and amount of participation of the applicant and each participant and conform to the cost-share guidelines outlined in Attachment 3: Cost-Share Guidelines. To the extent that in-kind contributions (such as existing equipment) are included, the source, percentage of use in the project, date of acquisition, original cost, present value and depreciation status must be included. Zero value must be ascribed to fully amortized or expensed facilities and equipment.

The Project Budget Summary format shown in Attachment 2 must be used. The budget must be prepared in line-item (e.g., personnel, overhead, equipment, supplies, etc.) detail. ODSA will not reimburse a fee or a profit. Attachment 2 will not count toward the page limit.

Attachment 2 also includes an Estimated vs. Actual OCDO Quarterly Cash Draw projection that must have the estimated portion completed by the applicant. ODSA requires this of all its

projects in order to have sufficient cash on hand and so that the state can better manage its overall bond debt. Invoices are paid on a cost reimbursable basis, so cash projections must closely integrate with the project time line and overall project budget.

A budget narrative/justification section must be included describing the following:

- a. Personnel costs from the applicant and participant(s) charged to ODSA and/or provided as cost-share;
 - b. Fringe benefit rates and what all it includes and who it is applied to;
 - c. Equipment list and justification for each piece of equipment to be purchased;
 - d. Description of the expected supplies required to complete the project that will be counted as cost-share;
 - e. Contractual expenses explaining the services/companies involved in the project;
 - f. Travel charges that are going to be counted as cost-share, including the number of expected trips, the purpose of those trips and the basis for the travel budget;
 - g. For Ohio colleges and universities: tuition waivers/tuition support that includes a brief description of the students and their expected tasks;
 - h. Other costs that are going to be counted as cost-share be clearly defined and listed up front (postage, lab fees, liquids & gases, phone, rental fees, etc.);
 - i. Indirect rates: including the indirect rate percentage(s) and which budget categories the indirect rate applies to and which budget categories are excluded from indirect charges, and a copy of the latest approved indirect rate from a federal agency.
5. Financial History. If the applicant is other than an institution of higher learning, certified financial statements for the past two (2) years must be included as an appendix. Financial statements for the past two (2) years also must be included for each participant to the project, if other than an institution of higher learning.
6. Audit. A copy of the latest financial audit for the applicant must be included as an attachment to the proposal as an appendix, only one (1) copy of each audit needs to be included.

D. Marketability Section

This section of the proposal must include the following:

1. Environmental, Health and Safety Aspects. This section must contain a discussion of the anticipated environmental benefits of the proposed project, including a comparative risk assessment to currently available technology. This comprehensive discussion should address not only the current phase of the project, but also subsequent commercial applications. The following topics should be included in the discussion:
 - a. Identification of hazardous or toxic gaseous, liquid or solid substances integral to the process, and the safeguards proposed for their containment and ultimate disposal.
 - b. The compatibility of the proposed process with existing and anticipated environmental laws and rules.
 - c. Identification of all process products, their classification with respect to environmental and health and safety rules, and methods proposed for their disposition.
 - d. Compatibility of the technology/technique with other emission control technologies and the anticipated emission reduction performance when combined with such technologies.
2. Technology/Process Economics. The anticipated cost of the commercial application of the technology or process must be estimated, in dollars per ton of pollutant reduced at the source (power plant or other end producer/user). Product or reuse credits and energy efficiency improvement credits, where applicable, should be specifically identified. The calculated costs

should be compared to competing existing or emerging technologies. Also, where appropriate, the levelized busbar cost (mills/kilowatt-hour) must be estimated. All cost-estimation assumptions and procedures must be clearly detailed.

3. Applicability to Ohio Coal Industry. The proposal must include a quantified discussion of the proposed technology's marketability and commercialization, particularly in Ohio; explain how the technology's application will benefit the Ohio coal industry, and how it will affect the continued and increased use of Ohio coal on an estimated tonnage per year basis. Items to be discussed include the following:
 - a. Description of competing technologies and fuels that will be displaced by the proposed technology, including cost comparisons of the technologies.
 - b. Potential total market geographic distribution of the market, with particular emphasis on Ohio. Specific attention should be given to Ohio's end users, and to existing Ohio sources using high-sulfur Ohio coal, identifying equipment types amenable for retrofit or repower applications with this technology.
 - c. Expected technology characteristics that will facilitate commercial plant construction, such as use of shop fabrication, modular construction, siting flexibility, etc.
 - d. Projected penetration of the proposed technology into the market described above, including a time-phased estimate in terms of relative penetration (percent) and absolute penetration (e.g., tons of Ohio coal per year, MW_e generated per year, etc.).
 - e. Discussion of how the Clean Air Act and other federal and state air quality rules and regulations will affect the commercial adoption of the technology.
 - f. Types of Ohio coal that can be commercially utilized by this technology and the potential increase in the use of Ohio coal in tons per year.
 - g. Characterization of the energy or fuel product (if applicable).
 - h. Amount and characteristics of products and by-products, and how they will affect the marketability of the technology.
 - i. Discussion of the applicant's and participant's marketing plan for the technology.
4. On-going Commitment to Ohio Coal Use. The proposal must include a description of the long-term commitment to Ohio coal at the host site, including estimated life of the unit and anticipated annual tonnage of Ohio coal to be used.

SECTION V. CRITERIA FOR SELECTION (not ranked in order of importance)

A. Technical

- Clarity and specificity of objective(s). The proposal has clearly stated objectives; the objectives are well defined and realistic and will advance the state-of-the-art; the objectives are likely to be achieved in a cost-effective manner.
- Technical merit. Proposal thoroughly and clearly discusses significant technical issues and/or risks/opportunities associated or anticipated with this technology or process; a thorough background discussion is provided describing the technology's development to date; the project will build upon and not duplicate prior work; the level of proposed scale-up is appropriate and not over-reaching. Sufficient technical support is provided to substantiate a high probability of success; the technology is not "off-the-shelf" or commercially guaranteed for the particular application for which it is proposed;
- Statement of work. The proposal contains a very clear, detailed, logically sequenced statement of work with specific performance targets or ranges and identified QA/QC methods; the project will be completed in a reasonable time frame.
- Environmental performance. The project identifies significant environmental issues associated with its commercial use; the technology is superior in environmental performance to competing technologies; valid performance claims are presented; the technology will meet or exceed requirements of the Clean Air Act and other appropriate laws and regulations; the technology addresses a current or anticipated environmental issue; related issues such as by-products, parasitic power use and associated ancillary costs are addressed; the project identifies and includes any necessary permitting and provides sufficient time in project for same.

B. Financial/Experience

- Reasonableness of the budget. The budget is reasonable for the tasks proposed and the applicant is financially stable and has sufficient depth of resources to support the project. The project cost and relative investment by the state of Ohio is commensurate with the risk undertaken by the state. The applicant and participant(s) bear an appropriate share of the risk.
- Cost share. Applicant itself bears a significant portion of the project's total cost, with cash and, where appropriate, in-kind contributions and the ratio of ODSA funds to private and other public contributions (cash and in-kind) is not excessive and is within limits established in Section II C of this RFP.
- Technical and management competence. Applicant and participant(s) key personnel have relevant experience and depth and possess the capability both corporately and in personnel knowledge/ability to ensure the project is properly managed (technically and financially), engineered, constructed, operated, documented and reported within budget. The project team has sufficient technical, managerial and marketing capabilities and skills to undertake a project of this magnitude. The company has enough depth of personnel, funding, and resources to handle a project of this scale, especially if unforeseen problems arise.

C. Marketability

- Applicability to Ohio. This project/technology is applicable to Ohio coal-consuming facilities or is a technology/process likely to increase the use of Ohio coal as a fuel or feedstock; there is likelihood of near-term adoption in the marketplace for demonstration and pilot projects; there is likelihood of long-term adoption in the marketplace for proof-of-concept projects.

- Cost-effectiveness. Application of the technology is likely to meet or exceed environmental requirements as established by current and expected law and regulation at an economically competitive cost compared to currently available and/or emerging technologies. The applicant identifies the cost or credit associated with byproduct disposal or sale. The applicant demonstrates a clear understanding of the economic issues that must be addressed in the technical development.
- Business/marketing plan. Given the level of development (i.e., proof-of-concept, pilot, demonstration, etc.) of the technology, an appropriate business/marketing plan is presented. The applicant demonstrates knowledge of: 1) Ohio and the overall market (including constraints), 2) how their project will advance Ohio coal, and 3) how to penetrate the market. Clear steps/plans are presented to commercialize the technology. The applicant has experience in commercialization of new technologies and presents evidence of same.
- Increased use of Ohio coal. The technology will increase the use of Ohio coal.
- Impacted Ohio communities. The project is located and/or operated in communities that have experienced the closure of either an Ohio coal-fired electric generating unit or the closure of an Ohio coal mine within the past ten (10) years.

**Ohio Coal Development Office – Ohio Coal Demonstration and Pilot Program
Proposal Evaluation Sheet**

This evaluation sheet is for use by the Ohio Coal Demonstration and Pilot Program RFP Project Review Team.

A total of **100 points** is available when scoring each submitted proposal, allocated according to the following:

Each section of scoring is based on a scale of 0 to 5, where 0=unacceptable, 3=average, and 5=excellent. For the total score, the weighting factors for each of the individual sections are combined out of a total of 100 points.

Score		Weighting Factor		Weighted Score	Maximum Score
-------	--	------------------	--	----------------	---------------

Technical (35 Points)

1.	Clarity and specificity of objective(s)		x	1.0	=		5
2.	Technical merit		x	2.0	=		10
3.	Statement of work		x	1.5	=		7.5
4.	Environmental performance		x	2.0	=		10

Financial/Experience (30 Points)

5.	Reasonableness of the budget		x	2.0	=		10
6.	Cost-share		x	2.0	=		10
7.	Technical and management competence		x	2.0	=		10

Marketability (35 Points)

8.	Applicability to Ohio		x	2.0	=		10
9.	Cost-effectiveness		x	1.0	=		5
10.	Business/marketing plan		x	1.5	=		7.5
11.	Increased use of Ohio coal		x	2.0	=		10
12.	Impacted Ohio communities		x	1.0	=		5

Weighted Total Score

100

SECTION VI. FUNDING AGREEMENT REQUIREMENTS

Basic requirements of a grant agreement from ODSA include, but are not limited to the following:

A. Royalty/Payment Agreement

Part of the grant agreement is a royalty/payment agreement. For each and every technology, equipment, and/or process that is funded under this solicitation, ODSA will be paid, over an extended period of time, a commercially reasonable portion of gross revenues, including but not limited to those revenues derived from the sales of equipment, services or patents, equipment leases or a portion of royalties and licensing fees. Such payment is in recognition of the risk the state of Ohio takes in granting research and development funding and is used to help defray principal and interest payments of Ohio's coal research and development bonds.

B. Award Deliverables

1. Status reports, describing technical progress, must be prepared quarterly according to a prescribed format and received by ODSA no later than ten (10) calendar days after each calendar quarter during the grant period.
2. Invoices and financial reports must be submitted quarterly summarizing the project financial status, including actual expenditures to date, and grantee cost-share. All invoices must bear sufficient documentation to validate both charges to the grant and the total cost-share expended.
3. Milestone plans and reports may be required for ODSA approval prior to initiating work for particular phases of a project.
4. An end-of-year project abstract must be submitted annually.
5. A comprehensive draft final report is due 60 days prior to the project completion date, with the revised final report due by the project completion date. Both are subject to review and comment prior to acceptance.
6. Note carefully: failure to meet certain reporting deadlines may result in financial penalties to the grantee.

C. General Terms and Conditions for Project Awards

1. Grant agreements, must be construed, interpreted and the rights of parties determined in accordance with laws of the state of Ohio.
2. All information, data, materials, patents, copyrights and royalties developed under grant awards belong to the state of Ohio unless negotiated otherwise in the applicable agreement.
3. The State's "Buy Ohio Policy" requires that competitive grant and contract solicitations by state of Ohio agencies provide preference for Ohio-based applicants and for work that will be done within Ohio. This shall carry through the grant to any bid for work and/or services made by the grantee.
4. Expenses for travel, including lodging and meals that counts towards the cost-share, must not exceed amounts in accordance with Ohio Administrative Code 126-1-02, as updated from time to time (the "Expense Rule") and Grantee agrees that it shall not count as cost-share any items that are deemed to be "non-reimbursable travel expenses" under the Expense Rule, whether by the Grantee or their respective employees or agents. International travel will not be eligible to count toward cost-share.
5. The awardee must agree to comply with all federal, state and local laws and regulations in the conduct of work performed on the project, and be responsible for obtaining any and all permits required to install and operate the project.
6. The awardee must not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, disability, or age and shall take affirmative action to ensure that applicants are employed and that employees are treated during such employment without regard to race, sex, national origin, disability or age.

7. The awardee must perform the project in the manner set forth in its statement of work, and for not more than the amount set forth in the proposal.
8. If the host site is a state-owned facility and the project will involve construction, then the awardee shall bid the construction work in accordance with Ohio Department of Administrative Services procedures.
9. An awardee may be subject to a financial audit by the state of Ohio only as it pertains to the project for which it received ODSA funds.

D. Grant Agreement Procedure

ODSA projects are overseen in accordance with the terms and conditions of a grant agreement, which is entered into after project approval by the ODSA.

ODSA's standard grant agreement template is included as part of this RFP (Attachment 7). Also included are all of the Exhibits that are attached to a final Agreement ("Agreement") and become as legally binding as the Agreement itself. Any applicant is advised to review all of these documents prior to submitting a proposal to ODSA.

By submitting a proposal to ODSA, the applicant agrees to accept the terms and conditions contained in ODSA's grant agreement template and all of its attached exhibits, unless requests for specific exceptions are made in its proposal to ODSA.

Please note: ODSA understands that the grant agreement template is a model and it may be necessary to make minor modifications to meet the needs of individual projects. By identifying possible changes in the template early, ODSA hopes to significantly expedite the grant process.

E. Obligations to the State; Compliance with Laws

Grant Agreements will require Grantees to comply with all applicable federal, state, and local laws in the performance of the Project. Grantees must accept full responsibility for payments of all unemployment compensation, insurance premiums, workers' compensation premiums, all income tax deductions, social security deductions, and any and all other taxes or payroll deductions required for all employees engaged by Grantees on the performance of the work authorized by the Grant Agreements.