

**ANNOUNCEMENT TO SUBMIT PROPOSALS
FOR APPLIED SCIENCE
COOPERATIVE AGREEMENTS**

Fiscal Year 2008

***National Technology Transfer Team
Applied Science Program***

A program of the

United States Department of the Interior
Office of Surface Mining Reclamation & Enforcement

Proposal Application Due Date: January 2, 2008

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INTRODUCTION

The United States Department of the Interior Office of Surface Mining Reclamation & Enforcement (OSM) is requesting proposals for projects that develop and demonstrate improved technologies to address environmental issues related to the mining of coal and reclamation of the land after mining. Applicants may request funding, not to exceed \$200,000. The award will be by cooperative agreement. Each cooperative agreement will be for a period of one year from the time of the award date. Each cooperative agreement grantee may apply for and be granted non-funded extensions of time as necessary to complete the project. Investigators with proposals that would require additional OSM funding in future fiscal years would have to reapply during the next or other appropriate fiscal year. Included in this document are instructions for preparing the proposal, including a list of applied science topics of interest and information on the proposal review process.

BACKGROUND

The National Technology Transfer Team (NTTT) of the OSM was established to provide a forum to guide, coordinate, and communicate OSM's national and regional technology transfer activities. To accomplish this, NTTT, in cooperation with technology transfer professionals at all levels throughout OSM, will:

1. identify and recommend OSM technology transfer areas for potential investigation based on national or regional needs and OSM Core Leadership Team initiatives;
2. coordinate national technology transfer activities;
3. ensure that OSM's national technology transfer planning initiatives fully address the current and future needs of the regions and directorates and support OSM's missions, goals and Strategic Plan;

4. identify and analyze requirements, projects, and issues, and provide recommendations to the Core Leadership Team for significant technology transfer concerns and activities; and
5. promote a broader understanding of and support for technology transfer in OSM.

Prior to FY 2005, OSM did not have specific funding for applied science projects. As a result, OSM became aware of the need to support applied science projects in order to better protect identified endangered species, improve reforestation and revegetation, protect prime farmland, improve technologies to mitigate acid mine drainage, improve methods for locating underground mines, and many other issues related to protecting the public and environment associated with surface coal mining. During FY 2005, Congress approved OSM's request to initiate a program to select and fund applied science proposals that would result in improved protection of the public and environment by advancing improved technology development and transfer related to surface coal mining and reclamation. This process has continued. For FY 2008, the objective of the NTTT Applied Science Program is to develop and demonstrate improved technologies to address environmental issues related to the mining of coal and reclamation of the land after mining. A goal to meet this objective would be to develop technical tools that improve the efficiency and accuracy of the State regulatory authorities in permitting coal mines and enforcing their federally approved State regulatory program. A related goal would be to examine the potential for these technologies to protect the public and the environment during mining and reclamation.

No new mining and reclamation technology is likely to be adopted by industry or the States unless it is more efficient and cost-effective than the technology it would replace. That is why OSM is looking for applied science projects that have the potential for improving, in a manner that protects the public and the environment, the efficiency with which the coal industry conducts surface coal mining and reclamation activities and the regulatory authorities that regulate these activities.

The NTTT Structure

There are three elements of the NTTT structure: (1) OSM, (2) NTTT, and (3) the OSM/State Regional technology transfer teams. Each element is described below.

OSM:

OSM is the sponsoring agency that provides funds for the NTTT. Through its Core Leadership Team, OSM provides management direction and oversight to the NTTT.

NTTT:

The NTTT is the key element of the NTTT Applied Science Program and makes all of its decisions by consensus. The NTTT is composed of members from OSM and from States that administer coal mining activities. The members from OSM represent: Headquarters;

the National Technical Training Program (NTTP); Technical Innovation and Professional Services (TIPS) program; and the three OSM Regions (Appalachian, Mid-Continent, and Western). The States are represented by the Interstate Mining Compact Commission and the Western Interstate Energy Board.

Critical roles and responsibilities of the NTTTT include:

- Approving overall NTTTT structure and timetables
- Authorizing requests for proposals
- Developing dissemination strategies for making requests for proposals
- Developing a scoring/ranking system to be used by reviewers for evaluating proposals
- Evaluating proposals
- Compiling the results of the proposal reviews
- Making project funding recommendations to the Core Leadership Team
- Facilitating communications between the program elements
- Disseminating applied science results via seminars, forums, workshops, publications, newsletters, internet, etc.
- Identifying important national and regional applied science areas for potential investigation.

OSM Regional Technology Transfer Teams:

The NTTTT recognizes that mining and reclamation technologies often vary from region to region and that State-to-State differences in mining and reclamation programs dictate how each region prioritizes its applied science technical needs. Each regional team is composed of one representative from the OSM region and one from each of the State regulatory authorities within that region. The roles and responsibilities of the regional technology transfer teams are as follows:

- Identify applied science areas for the region for potential investigation
- Identify regional experts and institutions that should receive the applied science announcement
- Review and rank proposals in accordance with regional guidance
- Make recommendations for selection of regional proposals to the NTTTT.

LIST OF POSSIBLE TOPICS OF INTEREST

OSM will consider all proposals relating to surface coal mining and reclamation. The following list is provided for information purposes only.

Blasting Issues:

- ground vibration, airblast, monitoring equipment accuracy, monitoring methodologies, structure response and damage, and vibration impacts on water wells

Mine and Coal Refuse Fires:

- Characterization, abatement, and control

Abandoned Mine Lands Reclamation Techniques**Hydrology Issues:**

- Mine Pools--discharge location and water quality prediction
- Acid Mine Drainage--predictive tools
- Acid Mine Drainage--prevention and treatment
- Stream Loss Into Underground Mines--prevention, duration, restoration
- Stream Restoration
- Potential Hydrologic Impacts--assessment through probable hydrologic consequences/cumulative hydrologic impact assessments (PHC/CHIA)

Steep Slope Mining and Reclamation:

- Rock Durability--testing methods and standards
- Valley Fill Stability--design and standards to ensure stable fills
- Evaluate stability of steep slopes, including highwalls and endwalls, needed to meet reclamation objectives for the various conditions and materials found in disturbed areas – guidelines, standards, and methods
- Vegetation/Woody Stems/Topographic/Relative Slope Stability Issues – achieving bond release

Use of Recycled Materials:

- Coal Combustion By-Product--placement at mines

Landscape Stability:

- Applicability of using a geomorphic approach to reclamation at coal mined lands
- Long-term stability of reclaimed land surfaces
- Surface stabilization using slope complexity instead of treating with mulch, tackifiers, engineered fill terraces, and other historical treatments – generate slope complexity parameters as guidelines
- Subsidence and long-term stability issues associated with underground mines

Soil Development on Reclaimed Lands:

- Characterization, classification and land use interpretations for reclaimed soils
- Microbiological (Mycorrhizae, etc.) assessment and management of reclaimed soils
- Alleviation of compaction on reclaimed soils

Vegetation Assessment:

- Use of remote sensing for pre- and post-mine vegetation assessments

Wildlife Conservation, Revegetation, and Reforestation:

- Reforestation--improving survival and quality, and encouraging reforestation
- Bat Conservation—improving protection through bat friendly mine closures and permitting and reclamation technologies
- Vegetation/Woody Stems/Topographic Issues--achieving bond release
- Fluvial Geomorphology--assessment for revegetation
- Development of guidelines for engineering design - for the installation of a type of bat compatible closures in shafts or steep declines, using polyurethane foam and riser pipe; based on theoretical analysis (such as computerized finite element analysis) and/or model testing.
- Wildlife use and other ecological considerations involving reclaimed wetlands
- Assessment of Plant Diversity
- Control of Invasive Species

Cropland Reclamation:

- Prime Farmland And Other Cropland Land Uses--soil capability assessment and restoration of productivity.

SUBMISSION OF PROPOSALS

The proposal application must be received by **January 2, 2008**. Each proposal should be submitted as: (1) a paper copy and (2) an electronic copy in PDF format or on a CD in PDF format. Letters of support must be submitted as signed originals on appropriate letter head that have been scanned and included as PDF files. Send proposal applications to the following address:

Kimery C. Vories (NTTT Team Leader)
Office of Surface Mining
501 Belle St.
Alton, IL 62002
(618) 463-6463 x 5103
kvories@osmre.gov

Proposers may address questions concerning proposal submission to Kimery Vories (above); Lois Uranowski (412) 937-2805 luranowski@osmre.gov; or Paul Clark (303) 844-1400 x 1531 pclark@osmre.gov.

Please note that misdirected proposal applications will be deemed late and returned to the applicant. All proposal applications must be complete at the time of submission. Later changes or addendums will not be accepted. The paper copy of the proposal may be mailed or delivered. The electronic copy may be e-mailed, mailed, or delivered.

FAXED PROPOSAL APPLICATIONS WILL NOT BE ACCEPTED.

PROPOSAL REQUIREMENTS

All proposals must support activities in one of OSM's three regions although it may apply to more than one region. Each proposal must support activities in the region within which the applicant's project is located and may include salaries, travel, equipment, materials, and services not including fees or profit. **All proposals must include a letter of endorsement, (on official letterhead) by an appropriately authorized management official representing a State, Indian, or Federal Title IV Abandoned Mine Land or Title V SMCRA Regulatory Authority (see list at <http://www.osmre.gov/statefeddirectory.htm>.)** Proposals without such an endorsement will not be considered for funding. Nevertheless, OSM reserves the right to reject, in whole or in part, any and all proposals.

In summary, in order for a proposal to be considered, it must include the following:

- Each proposal should be submitted as a paper copy and as an electronic copy in PDF format or on a CD in PDF format. Letters of support must be submitted as signed originals on appropriate letter head that have been scanned and included as PDF files. Proposal must be received on or before the due date.
- A proposal addressing all items under "Instructions for Preparation of a Proposal"
- The proposal must include completed forms FP-1 and B-1.
- The proposal must include a statement that any data collected as a part of this program must be accessible to the public.
- A copy of the letter of endorsement from an appropriate State, Indian, or Federal Title IV Abandoned Mine Land or Title V SMCRA Regulatory Authority (**see list at <http://www.osmre.gov/statefeddirectory.htm>).**)

PROGRAM FUNDING

Applicants may request funding not to exceed \$200,000 for FY 2008. The award will be by cooperative agreement. Each cooperative agreement will be for a period of one year from the time of the award date. Each cooperative agreement grantee may apply for and be granted non-funded extensions of time as necessary to complete the project. Investigators with proposals that would require additional OSM funding in future fiscal years would have to reapply during the next or other appropriate fiscal year. Cooperative agreements create an appropriate legal relationship between OSM and the performing organization, and provide OSM the opportunity and duty to remain "substantially involved" during the course of the project. OSM recommends a minimum cost-share of 25 percent with the applicant providing some portion of this percentage. The remainder may come from academia, industry, or other non-federal sources. OSM requires for those proposals providing cost share that as part of the full proposal application, signed letters of support indicating specific actual cash and/or in-kind services meeting the recommended 25 percent cost-share. (For a definition of cost-sharing see Federal Register 59(64) Monday, April 4, 1994, Section 19.23.)

$$\text{Total Project Value} = \text{Amount Requested From OSM (Maximum of \$200,000)} + \text{Cost Share (Recommended Minimum of 25\% of Total Project Value)}$$

Example of minimum cost-share recommendation:

Total Project Value	Amount Requested From OSM	25% of Total Project Value
\$93,333	\$70,000	\$23,333
\$63,050	\$47,287	\$15,762

OSM will announce the total amount of available funding at a later date and will grant the awards. It is expected that funds will be available beginning April 1, 2008. **However, there is no guarantee that any funds will be available.** We will notify applicants as to whether or not their proposal has been approved.

PROPOSAL REVIEW PROCESS

After all proposals are received, they will be distributed to NTTT members for initial review. The first review will be conducted as follows: (1a) ranking of all proposals by each of the regional technology transfer team members; (1b) ranking of all proposals by each of the NTTT members; (1c) scoring of all proposals by each NTTT member based on guidance criteria below; (2) the NTTT will meet to determine by consensus the highest ranked and scored proposals from each region and nationally, and (3) make applied science program funding recommendations. The NTTT funding recommendations will then be transmitted to the OSM Core Leadership Team.

NTTT reviewers will assign scores to the proposed projects based upon the following criteria:

- What is the level of external financial support?
- What is the technology transfer potential?
- What is the technical merit?
- Value of proposal to SMCRA programs.

NTTT APPLIED SCIENCE PROGRAM SCHEDULE

October 1, 2007 to January 2, 2008	Proposals submitted
January 2, 2008	Last date to submit the proposal to the OSM contact as indicated above.
February 15, 2008	First round of Ranking and Scoring of the proposals completed with results forwarded to the NTTT team leader.
February 20-21, 2008	Final consensus Ranking and Scoring of the proposal completed by NTTT and selection of highest ranked proposal(s) for recommendation to the OSM Core Leadership Team. Recommendations may include requirements for enhancing the selected proposal.
March 7, 2008	Funding decisions are made by OSM Core Leadership Team
April 1, 2008	Unsuccessful applicants are notified of decisions
May 1, 2008	Awards distribution begins

Following approval of the successful project list by the Core Leadership Team, each successful applicant will be required to submit an Application for Federal Assistance and associated documents to initiate award of the cooperative agreement. Completion of these forms incorporating NTTT requirements for enhancing the proposal will be necessary to receive funding.

REPORTING REQUIREMENTS

Funded projects will have the following reporting requirements:

- Quarterly progress reports
- Annual financial reports
- Draft final report
- Comprehensive final report
- One 2-3 page summary write-up for publication for use by OSM in its technology transfer efforts.

INSTRUCTIONS FOR PREPARING THE PROPOSAL

We have developed a proposal application format which is to be followed in preparing your application. Copies of the face page and budget form are attached. Each of the following items must be completely addressed. **The NTTT may require enhancements to the proposal prior to funding.** Please include the following sections in your proposal applications in the order in which they are listed. Items 1 through 7 must not exceed a total of 30 pages. Use 12 pitch type and 1 inch margins.

- 1) Face Page (Form FP-1, attached): You must complete all sections on this form and obtain signatures of appropriate officials on the form.
- 2) Table of Contents: Please include major sections and the corresponding page numbers.
- 3) Project Abstract (limit to one page single-spaced): Include appropriate Topic of Interest centered and two (2) lines beneath the abstract.
- 4) Project Description (15-20 pages)
 - a) Objectives: List the specific objectives of the project.
 - b) Background: Provide a comprehensive description of the relevance of the project.
 - c) Preliminary Studies (if applicable): Describe any precursory research that applies to the project topic and what was determined from those preliminary results.
 - d) Experimental Procedures/Methodologies: Describe any laboratory or field testing to be performed referencing analytical methods used.
 - e) Significance of the project to the OSM Applied Science Program: Give a description of the need for this project, its technical merits, and how the project will be of significance to the research special interest topics. Include a discussion of the technology transfer potential of the project and how it will be accomplished. Also, describe the extent of involvement in the project by the ultimate end users of the technology. Note if any cost-sharing in the project is by end users of the technology and the potential for other end users to adopt project results.
 - f) Description of resources (i.e., laboratory facilities): Describe the laboratory facilities, testing equipment, field sites, etc. available for conducting the tasks associated with this project.
 - g) Literature Cited: List all sources used.
- 5) Statement of Work (3-5 pages)
 - a) Issue Identification: Identify and briefly describe the issue this project is addressing.
 - b) Work Tasks: Break the project into specific work tasks and describe each work task individually.
 - c) Time Allocation: Describe how much time (by months) is to be allotted for each work task and when each task is to begin and end.

- d) Resource Allocation: For each work task, list the personnel who will be working on that task and specifically what each person will be doing.
 - e) Quality Assurance/Quality Control: List measures planned to ensure that high quality results are achieved such as descriptions of statistics to be used to evaluate data and to compare data to controls.
 - f) Determination of Goals: Identify the means to be used to determine that project goals are met
 - g) Deliverables must include a final report with executive summary, a power point presentation, and a plan for Technology Transfer such as a publication in a technical publication or presentation at technical meetings.
 - h) Public access to data: A statement is required that all data collected as part of this program must be accessible to the public.
- 6) Budget for which funding is requested (Form B-1, attached): Complete the appropriate sections of this form. Project duration may exceed one year and may request non-funded time extensions in order to complete the project.
- 7) Explanation of Budget: The budget may include salaries, travel, equipment, materials, and services not including fees or profit. It is imperative that you specify any overhead, indirect costs, or benefits rates as well as which budget categories are affected by those rates. (For example, Indirect Costs defined as “Facilities and Administration” = 10% of Total Direct Cost less tuition and equipment.) In addition, salaries must include personnel descriptions (i.e. faculty, graduate student, hourly worker, etc.), the number of hours expended on the project, and the hourly rate. Supplies must be listed in general terms (i.e. field supplies, general office supplies, etc.). Travel must include a description (trips to field site, conference, etc.), estimated number of hours for travel, and estimated cost per trip. In addition, for travel to conferences, estimate proposed expenses in the budget. For travel to conferences, specific information on conference title, dates of conference, and purpose in attending (i.e. presenting paper, poster session, etc.) must be supplied to the OSM for approval prior to travel. Other Direct Costs must include a general description (i.e., chemical analysis) and include units and unit cost. Indirect Costs must include a breakdown of indirect cost rates and a brief description such as “proposer’s rate” or “facilities and administration.” Finally, you must differentiate between funding sources in terms of total amounts and percentages requested from: (1) OSM, (2) the applicant, and (3) other (industry, etc.). In-kind contributions provided by industry, government agencies, and university department should be included.

Allowable Costs - Subcontractor and In-Kind Participants

Note: Allowable costs for federal agreements are determined by the type of recipient organization. All subcontractor or in-kind participant costs must be allowable under federal guidelines in order to be paid with federal funds or used as cost share. Allowable costs include both direct and indirect costs. Commercial organizations are governed by the Federal Acquisition Regulations part 31.2 (Contracts with commercial organizations). FAR part 42.7 (Indirect Cost Rates) prescribes policies and procedures for establishing Indirect Cost Rates.

Actual salaries must be used allowing for reasonable escalation the second year. Fringe benefits must be based on actual cost (an average percentage rate may be used for estimating purposes) or an approved rate. Fringe benefits, indirect costs, G&A, overheads, and other rates must be federally approved. In the absence of actual federal approval (DCAA, HHS or other federal agency) documentation that these rates were previously accepted by a federal agency should be submitted. The name of the agency, address, contact person, and federal agreement number where the rates were accepted should be provided. Copies of any correspondence accepting the proposed rates should be provided.

Cost sharing or matching requirements are governed by the Office of Budget and Management Circular A-110, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals and Other Non-Profit Organizations, Section 23. This Section also gives guidelines on valuation of equipment and other tangible contributions when proposed to be used as an in-kind contribution.

- 8) Identification of Proprietary Information: Technical data or other data such as trade secrets, confidential financial or commercial information, or other privileged information which the applicant prefers to withhold from public disclosure or use by OSM for any purpose except for proposal evaluation may be included in this application. To protect any confidential data, each page must be specifically identified indicating each paragraph or line that contains confidential data the applicant wishes to protect. The applicant must also include a page following the budget which states the following:

TRADE SECRET INFORMATION

In order to explain properly the proposed work, it may be necessary to disclose within the proposal document trade secret information. If such is disclosed, the OSM wishes to take steps to keep such information confidential. However, it must be aware that such information does or does not exist within a given proposal. Therefore, please complete the following:

_____ There is NO trade secret information contained in this proposal package.

_____ There IS trade secret information contained in this proposal package. Such information is noted on pages _____.

NOTE: Please REDACT those pages which contain trade secret information. In other words, conspicuously highlight or mark those passages, diagrams, drawings, etc. that contain trade secret information.

Also note that the Project Abstract may be released to the public. Therefore, the abstract must not contain any trade secret information.

- 9) Signed Letters of Commitment meeting the recommended minimum 25 percent cost-share requirement: Signed letters of commitment from all cost-share supporters for actual cash contributions or for in-kind services provided during the period of time for which the project is to be funded are required with the proposal application. **Letters arriving under separate cover (after the proposal due date) or faxed letters of commitment will not be accepted.** Letters of commitment must include the type of contribution to be provided (cash contribution or in-kind service), the dollar amount committed, and/or the estimated dollar value of the service. Letters of commitment must be on letterhead and signed by a duly authorized individual. Cost-share commitments are contingent upon selection and funding of the submitted proposal.
- 10) Resumes of each senior investigator: Please limit resumes to one (1) page for each senior investigator involved in the proposed project. Senior investigators include the principal investigator and any other faculty or senior-level personnel involved in the project.
- 11) **All proposals must include a letter of endorsement, (on official letterhead) by an appropriately authorized management official representing a State, Indian, or Federal Title IV Abandoned Mine Land or Title V SMCRA Regulatory Authority (see list at <http://www.osmre.gov/statefeddirectory.htm>.)**
Proposals without such an endorsement will not be considered for funding.

OFFICE OF SURFACE MINING NATIONAL TECHNOLOGY TRANSFER TEAM FACE PAGE

PROJECT TITLE: _____

PROJECT DURATION IN MONTHS: _____ MONTHS

HAS THIS PROPOSAL BEEN SUBMITTED ELSEWHERE: YES _____ NO _____

PRINCIPAL INVESTIGATOR:

NAME & TITLE: _____

ORGANIZATION: _____

MAILING ADDRESS: _____

TELEPHONE: (_____) _____ FAX (_____) _____

E-MAIL: _____

FEDERAL TAX ID NUMBER: _____

FUNDING

FUNDS REQUESTED FROM OSM _____ NEW APPLICATION _____

FUNDS PROVIDED BY PROPOSER _____ CONTINUATION _____

ADDITIONAL MATCHING FUNDS:

VALUE OF IN-KIND SERVICES _____

CASH CONTRIBUTION _____

TOTAL PROJECT COST _____

PROPOSERS ORGANIZATION

NAME: _____

ADDRESS: _____

CERTIFYING REPRESENTATIVES NAME & TITLE: _____

SIGNATURE OF PRINCIPAL INVESTIGATOR/DATE

PI Assurance: I agree to accept responsibility for the scientific conduct of the project, to provide the required reports, to acknowledge OSM in any presentations and publications wherein the results of this project are used, and to provide copies of presentation abstracts and publications to OSM. I also agree to allow this proposal to be reviewed by industry and/or academia and that proprietary information which has been properly identified will be used solely for proposal evaluation.

SIGNATURE OF ORGANIZATION'S CERTIFYING REPRESENTATIVE/DATE

Certification & Acceptance: I certify that to the best of my knowledge, the statements contained herein are complete and true and I accept the obligation to comply with OSM terms and conditions provided an award is made as a result of this submission.

OFFICE OF SURFACE MINING NATIONAL TECHNOLOGY TRANSFER TEAM
BUDGET PAGE

PROJECT TITLE: _____

PRINCIPAL INVESTIGATOR: _____

ORGANIZATION: _____

REQUESTED DURATION IN MONTHS: _____

ITEM	HOURS	RATE/HOUR	TOTAL	OSM TOTAL	APPLICANT	OTHER
SALARIES (LIST EACH PERSON OR POSITION SEPERATELY)						
BENEFITS (LIST EACH BENEFITS RATE PER PERSON/ POSITION)						
TUITION						
SUPPLIES						
EQUIPMENT						
SUBCONTRACTS						
TRAVEL						
OTHER DIRECT COST						
TOTAL DIRECT COST						
INDIRECT COST (LIST APPLICANT ORGANIZATION'S RATE AND WHICH LINE ITEMS TO WHICH IT APPLIES)						
TOTAL						
COST SHARE PERCENTAGE (100%)						