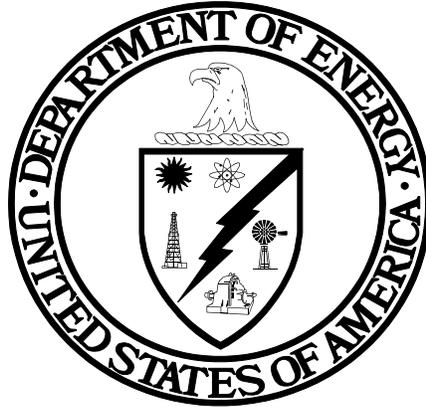


**SOLICITATION FOR FINANCIAL
ASSISTANCE APPLICATIONS**



DE-PS26-03NT41718

**“Large Scale Mercury Control Technology
Field Testing Program - Phase II”**

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ISSUING OFFICE:

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ISSUE DATE: February 6, 2003
APPLICATION DUE DATES: #1) April 07, 2003 (8:00 P.M. EASTERN TIME)
#2) January 29, 2004 (8:00 P.M. EASTERN TIME)

Information regarding this solicitation is available on the
Department of Energy, Industry Interactive Procurement System (IIPS)
web site at: <http://e-center.doe.gov>



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SECTION I - TECHNICAL REQUIREMENTS

1.1 SUMMARY

The DOE/NETL is seeking applications to conduct a second phase of field testing of advanced, post-combustion mercury control technologies for all coal types (including blends of Powder River Basin with eastern bituminous or lignite) using pulverized coal or cyclone boiler configurations. A key focus of the solicitation is on technologies capable of providing mercury removal to flue gases containing high elemental mercury concentrations, normally a characteristic of lower ranked coals. Longer-term (ranging from one to six months at optimum process conditions) testing is sought at commercial coal-fired power plants in order to: (1) verify technology performance in terms of total and speciated mercury removal (55-80%+ based on coal type, equipment, etc.) relative to changes in load and coal-mercury concentration (2) determine realistic process/equipment costs for various levels of mercury removed for a variety of equipment configurations focusing on smaller surface collection area (SCA<300 ft²/ thousand actual cubic feet of flue-gas), higher operating temperature (>300 degrees F) electrostatic precipitators for bituminous coal; (3) quantify balance-of-plant (BOP) impacts such as Electro-Static Precipitator (ESP) performance, baghouse/fabric filter (FF) performance and bag life, byproduct contamination, corrosion, parasitic load, etc.; (4) evaluate the relationship of chlorine concentration in the coal and the resulting HCl concentration in the flue gas and its impact on mercury removal levels (especially for low-rank coals), and (5) measure and assess potential mercury control associated with multiple pollutant or co-control technology.

High quality inlet/outlet mercury speciation measurements shall be made using Ontario Hydro measurements to calculate baseline mercury removals across pertinent air pollution control devices at each test site before any parametric or performance testing. Continuous or semi-continuous emission monitors (CEMS or S-CEMS) are to be used to monitor variations in mercury content of flue gas and track technology performance during parametric testing but Ontario Hydro measurements shall be collected to verify mercury removal during performance testing (at the beginning, middle and end of each test condition plus additional measurements as needed to verify CEM/S-CEM results). In an effort to further CEM/S-CEM development, DOE may request that host sites allow additional CEM/S-CEM monitors to be brought on site (by a third-party funded through EPA or DOE) to be tested along side the applicant's CEMs/S-CEMS during long-term testing with the applicant providing any necessary support. All successful applicants will be required to collect (during performance testing), store and ship any pertinent by-product materials (i.e. fly ash, and (if applicable) FGD materials including both solids and scrubber liquor) to an independent contractor of NETL's choice for analysis. In addition to total mercury, analysis will include both leaching and volatilization studies and may include biological and/or petrographic analysis using standard analytical protocols. Specifically, 6 five-gallon buckets of each material shall be collected from appropriate sample locations. This includes three samples of material pre-mercury control (baseline) and 3 post-mercury control samples (for each separate test condition). Measurement of mercury in all streams (including water) is necessary for a complete process mercury balance.

Two closing dates are being offered. The first closing date will be April 07, 2003 and this is for technologies that can meet the scientific and technical merit criteria currently. The second closing date of January 29, 2004 is reserved for those technologies that are not currently ready for long-term field testing but could meet the criteria by then. Currently available technologies would not be considered responsive during the second closing date.

1.2 BACKGROUND INFORMATION

In December 2000, EPA determined that it was necessary to regulate hazardous air pollutant emissions (focusing on mercury) from coal-fired utility boilers. Presently, the required regulatory mechanism for mercury air emissions is through maximum achievable control technology (MACT) provisions under the hazardous air pollutant provisions of CAAA §112. MACT standards are based on the average emission level achieved by the best performing 12% of existing sources, by category of industrial sources for which the Administrator has available data. A significant resource for the development of MACT standards for utility boilers has been data collected during the Information Collection Request (ICR) held in 1999, as well as cost and performance data developed for activated carbon injection. Throughout the rule development process, there has been some debate over the appropriate categorization of sources, primarily as to coal rank (i.e., bituminous, subbituminous, and lignite). Additionally, the question has been raised as to whether or not the data set adequately represents the entire fleet of coal fired utility boilers. The current schedule for regulatory action is for EPA to propose MACT standards for mercury emissions (and any other air toxics) from coal- and oil-fired power plants in December, 2003, issue final standard in December, 2004, and require compliance within three years after regulations become effective.

In parallel to the development of MACT standards required by existing air pollution regulations, several multi-pollutant control frameworks have been proposed to regulate mercury from power plants, in addition to more stringent limits on sulfur dioxide (SO₂), nitrogen oxides (NO_x), and in some cases carbon dioxide (CO₂). One such plan is a three-pollutant bill, aptly called the Clear Skies Initiative, that the Bush administration proposed on February 14, 2002. This plan would seek to reduce mercury emissions by 69% implemented over two phases (Table 1) by 2018, using a market-based trading mechanism similar to the highly successful SO₂ credit trading program used for the Title IV Acid Rain program. The Bush Administration's Clear Skies Initiative also calls for re-evaluation by 2009 of the proposed 2018 emissions targets. Both the EPA and the DOE would conduct a peer-reviewed study weighing a host of factors in the re-evaluation including: a new cost-benefit analysis of the emissions limits, comparison of the cost of the SO₂ and NO_x emissions cuts by utilities with pollution reductions from other pollution sources, and the most current research and development.

Table 1. Clear Skies Emission Caps

Pollutant	Current Emissions	CSI Cap-Phase I (2008)	CSI Cap-Phase I (2010)	CSI Cap-Phase II (2018)
SO ₂	11 million tons		4.5 million tons	3 million tons
NO _x	5 million tons	2.1 million tons		1.7 million tons
Mercury	48 tons		26 tons	15 tons

Whatever path is followed, success will be directly dependent on the both the technical availability and cost-effectiveness of control technologies applicable to a diverse fleet of coal-fired electric utility boilers. DOE/NETL has been carrying out research and development of advanced mercury control technologies to meet these objectives since the mid-1990s. In March 2000, a first-of-a-kind large scale field testing program was initiated to evaluate the performance of emerging mercury control technologies on actual commercial power plant flue gas. Under this Phase I field testing program, ADA-ES (utilizing sorbent injection) and McDermott Technologies (utilizing a wet FGD chemistry approach) were awarded cooperative agreements to perform tests at six different sites representing a variety of equipment configurations and coal types. The results from these short-term field tests are summarized in Table 2.

Table 2. Results from NETL's Short-Term, Large-Scale Field Tests

PARTICIPATING UTILITY	Michigan South Central Power Agency	Cinergy	Southern Company	We Energies	PG&E National Energy Group
HOST SITE	Endicott	Zimmer	Gaston	Pleasant Prairie	Brayton Point
LOCATION	Litchfield, Mi	Moscow, OH	Wilsonville, Al	Kenosha, WI	Somerset, MA
TEST SIZE(MWe)	55	1300	135	150	122
PRIMARY MERCURY CONTROL DEVICE	Limestone, Forced Oxidation Wet Flue Gas Desulfurization System	Magnesium-Enhanced Lime with Ex-Situ Oxidation Wet Flue Gas Desulfurization System	Compact Hybrid Particulate Collector (COHPAC) Baghouse	Cold-Side Electrostatic Precipitator	Cold-Side Electrostatic Precipitator
COAL TYPE	High-Sulfur, Eastern Bituminous	High-Sulfur, Eastern Bituminous	Low-Sulfur, Eastern Bituminous	Low-Sulfur, Powder River Basin Subbituminous	Low-Sulfur, Eastern Bituminous
Average [Hg] in Coal (ppm)	.21	.15	.06-.13	.10-.13	.03-.08
Control Approach	Additive injection upstream of WFGD	Additive injection upstream of WFGD	Sorbent injection upstream of particulate collection device	Sorbent injection upstream of particulate collection device	Sorbent injection upstream of particulate collection device
Injection Rate	1 gallon/hour	27 gallons/hour	1.5-3 lbs sorbent /million actual cubic feet of flue gas	11 lbs sorbent /million actual cubic feet of flue gas	10-20 lbs sorbent/million actual cubic feet flue gas
Average Mercury Removal in Short-Term Tests (%)	77	51	87	70	85+
Cost Estimate of Variable Additive Cost (Equipment already present) mills/kWh	.18	.18-.23	.3-.5	2-3	1.7-2.5
Test completion	10/01	12/01	3/01	11/01	7/02

DOE/NETL held two workshops (in June and September 2002) with key stakeholders from the utility industry, government agencies, research organizations, and academia to obtain input on the content and structure of future mercury research and development. Based on DOE/NETL field test results and Information Collection Request (ICR) data gaps, workshop participants identified a number of different configurations and technologies that need further long-term testing on different coal ranks as shown in Table 3. Although blends are not specifically identified, they will be considered appropriate replacements for the various individually listed coal ranks. A complete summary of the workshop proceedings can be found at www.netl.doe.gov/coalpower/environment.

Table 3. Suggested Host Site Configurations and Coal Types

	ESPC (small)	ESPC (Med)	FF	SD/FF	TOXECON	ESPC/FGD	ESP/SCR/ FGD
East Bit Hi S	YY	?	X	X	Y but N/A	Y	X
East Bit Low S	YY	?	X	X	Y (long- term)	Y	X
Sub Bit	X	YY	Y#	Y*	Y but N/A	Y##	
ND Lig	X	?	X	Y*	Y but N/A	Y	N/A
TX Lig	X	X	X	Y#	Y	Y##	
W Bit	X	X	Y#	?	Y but N/A	Included in Sub Bit	Included in Sub Bit

Y = yes (i.e., conduct field test). * = low CI. # = either fuel: ## = either configuration

YY = possible multiple test needed

? = maybe (e.g., how many plants on E. Bit with just ESPC)

Small: SCA < 200 Ft²/kacfm Medium: SCA = 200-350 Ft²/kacfm

N/A = not available: X = not critical need - low interest or N/A

In response, DOE/NETL is issuing the subject solicitation focused on four Areas of Interest described below.

1.3 SOLICITATION OBJECTIVES (MAR 2001)

Area of Interest 1 addresses sorbent injection technology, Area of Interest 2 addresses wet flue-gas desulfurization enhancement, Area of Interest 3 addresses oxidation systems and Area of Interest 4 allows for novel technologies ready for long-term field-testing.

The solicitation supports the overall goal of the Department of Energy/Office of Fossil Energy's Innovations for Existing Plants (IEP) Program to develop advanced technology and knowledge products that enhance the environmental performance of the existing fleet of coal-fired power plants. For all topics, the applicant must indicate the as-fired inlet coal mercury concentration, speciated flue-gas mercury concentrations exiting the boiler, and baseline removal of total mercury with the existing air pollution control device(s) before any sorbent injection, system modification, or new equipment installation. The application should then provide a detailed explanation of the proposed methodology for achieving total mercury removal levels of 55+%(lignite), 65+%(subbituminous) or 80+%(bituminous). Coal blending alone will not be considered as a mercury control technique. DOE is also interested in determining the cost for the maximum total mercury removal achieved with each system, sorbent, etc. proposed. If the applicant proposes a sorbent for mercury removal under Area of Interest 1, the applicant should adequately address why they believe the sorbent is better (through the use of previous experimental data) than other sorbents that have been or are currently being tested in DOE's mercury control field-test program. One method of verifying this would be to include competing commercial sorbents within the test matrix to obtain a reasonable comparison of effectiveness. Evidence demonstrating current cost and availability at scales commensurate with the desired testing scale is required.

The four Areas of Interest for this solicitation are:

AREA OF INTEREST 1: FIELD TESTING OF ACTIVATED CARBON/SORBENTS UPSTREAM/DOWNSTREAM OF EXISTING UTILITY PARTICULATE CONTROL DEVICES FOR BITUMINOUS AND LOW RANK COALS (DE-PS26-03NT41718-1)

AREA OF INTEREST 2: FIELD TESTING OF EFFECTIVE MERCURY CONTROL TECHNOLOGIES UPSTREAM OF AND ACROSS WET FLUE GAS DESULFURIZATION SYSTEMS (DE-PS26-03NT41718-2)

AREA OF INTEREST 3: FIELD TESTING OF NON-SORBENT BASED CONCEPTS FOR INCREASING THE OXIDATION OF ELEMENTAL MERCURY FOR REMOVAL IN DOWNSTREAM AIR POLLUTION CONTROL EQUIPMENT (DE-PS26-03NT41718-3)

AREA OF INTEREST 4: OTHER MERCURY CONTROL TECHNOLOGIES READY FOR LONG-TERM FIELD-TESTING (DE-PS26-03NT41718-4)

Table 4. Area of Interest Matrix

Area of Interest #	Topic Area	Coal Type/Existing Equipment Configuration	Scale of Testing
1 DE-PS26-03NT41718-1	Sorbent Injection	Pulverized-Coal or Cyclone Fired Bituminous - SCA <300 CSESP/HSESP T>300 F Lignite/ Sub-bituminous -ESP/FF/polishing device - No SCA or Temperature limit Coal Blends - No SCA or Temperature limit	1
2 DE-PS26-03NT41718-2	FGD Enhancement	All coals or blends with Wet FGD	1
3 DE-PS26-03NT41718-3	Oxidation Systems	All coals or blends applicable to plants with or without Wet FGD	1 or 2
4 DE-PS26-03NT41718-4	Other	All coals individually or blends and all existing equipment configurations	1 or 2

1. Full Scale (nominal 100 MWe minimum size)
2. Slip Stream (nominal 5 MWe minimum size)

Scale of Testing

DOE/NETL anticipates allocating \$1.5 million or less in DOE Funding per test site. DOE/NETL recognizes that certain mercury control technologies proposed for full-scale testing may require significant outlays for capital equipment in order to be tested. Given that the funding available for this solicitation is limited and is to be used primarily for testing and evaluation of the performance of the proposed technology and not for the purchase of equipment, DOE/NETL is allowing for slip-stream testing of technologies under Topic Areas 3 and 4. However, if the applicant wants to test at full scale, then they would be required to cover any additional costs above DOE/NETL's threshold of 75% cost-share up to a maximum of \$1.5 million per test site. If the total cost/site exceeds 2 million dollars, this would result in the applicant providing greater than 25% cost sharing. DOE/NETL anticipates that funds will be approximately allocated as 2/3 to full-scale testing and 1/3 to pilot-scale testing.

SECTION II - SOLICITATION-CONDITIONS AND NOTICES

2.1 APPLICANT ELIGIBILITY (MAY 2001)

Any nonprofit or for-profit organization, university or other institution of higher education, or non-federal agency or entity is eligible to apply, unless otherwise restricted by the Simpson-Craig Amendment which is defined as follows:

Organizations which are described in section 501(4) of the Internal Revenue Code of 1986 and engage in lobbying activities after December 31, 1995, shall not be eligible for the receipt of Federal Funds constituting an award, grant, or loan. Section 501(4) of the Internal Revenue Code of 1986 covers:

“Civic leagues or organizations not organized for profit but operated exclusively for the promotion of social welfare, or local associations of employees, the membership of which is limited to the employees of a designated person or persons in a particular municipality, and the net earnings of which are devoted exclusively to charitable, educational or recreational purposes.”

Lobbying activities are defined broadly to include, among other things, contacts on behalf of an organization with specified employees of the Executive Branch and Congress with regard to Federal legislative, regulatory and program administrative matters.

NOTE: Please review 2.16 for further eligibility restrictions.

2.2 NUMBER AND TYPE OF AWARDS (JAN 2000)

It is anticipated that between 7-10 cost-shared projects will be selected. Individual project awards are expected to be between 12 - 42 months with a total value/site estimated at no more than \$2 million each. The maximum DOE share per site will be \$1.5 million. However, the Government reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this solicitation and will award that number of financial assistance instruments which serves the public purpose and is in the best interest of the Government. The Government intends to use cooperative agreements as the type of award instrument(s).

2.3 COST SHARING REQUIREMENTS (DEC 1999)

In accordance with 10 CFR 600.30, the DOE has determined that a minimum cost share for this project is 25% of the total project value (NOT 25% of the DOE share) during each Budget Period. Cost sharing must meet the requirements of 10 CFR 600.123 and 10 CFR 600.224. Allowable costs for cost sharing shall be in accordance with 10 CFR 600.127 and 10 CFR 600.222.

2.4 AVAILABILITY OF FUNDS (AUG 1999)

DOE currently has available \$2.5 million for this Program Solicitation (PS) and the proposed budget for this program over 4 years is \$15 - 20 million of DOE support.

2.5 PROJECT PERIOD (AUG 2000)

Reference 2.2 above.

2.6 REPORTING REQUIREMENTS (FEB 2001)

The Reporting Requirements identified in the model financial assistance agreement located at <http://www.netl.doe.gov/business/faapiaf/MODEL.PDF> are required to be submitted during performance of the award.

2.7 APPLICATION DUE DATE - MULTIPLE DUE DATES (JAN 2003)

Applications and amendments of applications must be received by the following dates, not later than 8:00 PM EST. You are encouraged to transmit your application well before the deadline.

4/07/03 (First Closing Date)
1/29/04 (Second Closing Date)

APPLICATIONS, OR APPLICATION FILES, THAT HAVE AN IIPS DATE/TIME STAMP LATER THAN THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.

2.8 PROGRAM AREAS OF INTEREST (JAN 2003)

This solicitation contains multiple program areas of interest identified in the solicitation objectives. Applicants are cautioned that this solicitation is a master solicitation and that each program area of interest has it's own program-specific solicitation number for submission of applications. For example, Program Area of Interest 1, Field Testing of Activated Carbon/Sorbents Upstream/Downstream of Existing Utility Particulate Control Devices has a solicitation number of DE-PS26-03NT41718-1. Applications can not be submitted under the master solicitation.

Applicants should submit their application under the program area which best fits the majority of the effort to be performed. If an application is submitted under a program area of interest in which the DOE believes fits more appropriately in another program area of interest, the applicant will be directed to resubmit under the appropriate area of interest. Do not submit an identical application under more than one area of interest.

2.9 MORE THAN ONE APPLICATION (JAN 2003)

You may submit more than one application. Each application must have its own unique title on the subject line (i.e., project title and principal investigator/project director, if any). For each application, you must first click on "Create Application" and then complete the information requested.

2.10 ANTICIPATED SELECTION AND AWARD DATES - MULTIPLE DUE DATES (AUG 1999)

The following reflects the anticipated selection dates by evaluation period. Awards are expected to be made within 90 calendar days following the selection.

<u>Evaluation Period</u>	<u>Anticipated Selection Date</u>
1	June - August 2003
2	April - May 2004

2.11 CONTENT OF RESULTING AWARD (NOV 2000)

Any agreement awarded as a result of this solicitation will contain the applicable terms and conditions found in the Model Financial Assistance Agreement located at the NETL Website located at:

<http://www.netl.doe.gov/business/faapiaf/MODEL.PDF>

Blank areas appearing in the model agreement indicated by "[]" will be completed after negotiations.

2.12 APPLICATION PREPARATION COSTS (DEC 1999)

This solicitation does not obligate the Government to pay any costs incurred in the preparation and submission of applications, or in making necessary studies or designs for the preparation thereof or to acquire, or contract for any services.

2.13 COMMITMENT OF PUBLIC FUNDS (AUG 1999)

The Contracting Officer is the only individual who can legally commit the Government to the expenditure of public funds in connection with the proposed award. Any other commitment, either explicit or implied, is invalid.

2.14 FALSE STATEMENTS (AUG 1999)

Applications must set forth full, accurate, and complete information as required by this solicitation. The penalty for making false statements in applications is prescribed in 18 U.S.C. 1001.

2.15 CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER (CFDA) (DEC 2000)

81.089 Fossil Energy Research and Development FE

The Applicant should put this CFDA number in Block 10 of the Standard Form 424, Application for Federal Assistance.

2.16 PARTICIPATION BY FEDERAL ORGANIZATIONS OR FEDERALLY AFFILIATED ORGANIZATIONS (JAN 2003)

Applications submitted by, or on behalf of: (1) Federal agency; (2) a Federally Funded Research and Development Center (FFRDC), or (3) a Department of Energy (DOE) Management and Operating (M&O) contractor will not be eligible for an award under this solicitation. However, these organizations may be proposed as team members subject to the following guidelines.

(a) For DOE M&O contractors, the proposed use of such entity must be authorized in writing by the DOE Contracting Officer or authorized designee responsible for managing the M&O Contractor. The applicant must also provide any additional submission requirements identified in Section 3 - APPLICATION PREPARATION INSTRUCTIONS OF THIS SOLICITATION. The DOE Contracting Officer responsible for managing the M&O Contractor must determine that performance by the M&O contractor: (1) is consistent with or complementary to DOE missions and the missions of the facility to which the work is to be assigned; (2) will not adversely impact execution of assigned programs of the facility; (3) will not place the facility in direct competition with the domestic private sector; and (4) will not create a detrimental future burden on DOE resources. DOE will make award to the applicant for the applicant's portion of the effort. For the M&O effort, DOE shall fund the work, in whole or in part, through a DOE field work proposal to the M&O contractor. If DOE funds a portion of the M&O effort, then the Recipient is responsible for funding the remaining portion of the effort through a Cooperative Research & Development Agreement (CRADA) or a service agreement utilizing their own funds.

(b) For FFRDC contractors (other than a DOE M&O contractor), the proposed use of such entity must be consistent with the FFRDC's authority under its contract with the cognizant Federal agency and such work must not place the FFRDC in direct competition with the private sector. DOE shall fund the FFRDC work through an interagency agreement with the cognizant Federal agency.

(c) For Federal agencies, the proposed effort must not place the agency in direct competition with the private sector. DOE shall fund the other agency work through an interagency agreement.

(d) An applicant's cost sharing requirement shall be based on the total cost of the project, including the applicant's and the Federal agency, FFRDC and M&O's portions of the effort.

(e) The estimated total cost of the Federal agency, FFRDC or M&O contractor(s) work, in the aggregate, shall not exceed 25% of the total estimated project cost.

2.17 DETERMINATION OF RESPONSIBILITY (JAN 2001)

DOE will evaluate the potential Recipient's responsibility before award. Responsibility determinations are focused on the Recipient's capability to manage and account for the funds, property and other assets provided and to perform satisfactorily under the terms of the award. If a potential Recipient is determined to not be in compliance or cannot or will not comply with generally applicable requirements (see 10 CFR Part 600, Appendix A), the contracting officer will find the Recipient not responsible and may either disapprove the application or use special restrictive conditions as a term of award.

2.18 EVALUATION PERSONNEL (JAN 2003)

Applications will be evaluated in accordance with the criteria set forth in Section IV of the solicitation. In conducting this evaluation, the Government may utilize assistance and advice from qualified personnel from other Federal Agencies, DOE Contractors, universities and industry. APPLICANTS NOT WISHING TO HAVE THEIR APPLICATION EVALUATED BY NONFEDERAL PERSONNEL SHALL INDICATE THEIR "NON-CONSENT" ON THE NETL FORM 540.1-4, FINANCIAL ASSISTANCE CERTIFICATIONS AND ASSURANCES. Applicants are further advised that DOE may be unable to consider an application withholding such consent.

When using personnel from other Federal agencies, DOE contractors, or other consultants to DOE in the evaluation of applications, DOE will obtain assurances from all evaluators that DOE's commitments are met relating to the proprietary nature of any application information.

2.19 APPLICATION CLARIFICATION (JULY 1999)

DOE reserves the right to require applications to be clarified or supplemented to the extent considered necessary either through additional written submissions or oral presentations.

2.20 APPLICATION ACCEPTANCE PERIOD (AUG 1999)

The minimum application acceptance period shall be 180 calendar days after the deadline(s) for receipt of applications.

2.21 AWARD WITHOUT DISCUSSIONS (AUG 2000)

Notice is given that award may be made after few or no exchanges, discussions or negotiations. Therefore, all applicants are advised to submit their most favorable application to the Government. The Government reserves the right, without qualification, to reject any or all applications received in response to this solicitation and to select any application, in whole or in part, as a basis for negotiation and or award.

2.22 PRESUBMISSION REVIEW AND CLEARANCES (AUG 1999)

Presubmission review under Executive Order 12372, "Intergovernmental Review of Federal Programs" is not required.

2.23 LOANS NOT AVAILABLE (JULY 1999)

Loans are not available under the DOE Minority Economic Impact (MEI) loan program, 10 CFR Part 800, to finance the cost of preparing a financial assistance application.

2.24 52.227-6 ROYALTY INFORMATION. (APR 1984)

(a) *Cost or charges for royalties.* When the response to this solicitation contains costs or charges for royalties totaling more than \$250, the following information shall be included in the response relating to each separate item of royalty or license fee:

- (1) Name and address of licensor.
- (2) Date of license agreement.
- (3) Patent numbers, patent application serial numbers, or other basis on which the royalty is payable.
- (4) Brief description, including any part or model numbers of each contract item or component on which the royalty is payable.
- (5) Percentage or dollar rate of royalty per unit.
- (6) Unit price of contract item.

(7) Number of units.

(8) Total dollar amount of royalties.

(b) *Copies of current licenses.* In addition, if specifically requested by the Contracting Officer before execution of the contract, the applicant shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents.

2.25 952.227-84 NOTICE OF RIGHT TO REQUEST PATENT WAIVER. (FEB 1998)

Applicants have the right to request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of the contract that may be awarded as a result of this solicitation, in advance of or within 30 days after the effective date of contracting. Even where such advance waiver is not requested or the request is denied, the contractor will have a continuing right under the contract to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the contract. Domestic small businesses and domestic nonprofit organizations normally will receive the patent rights clause at DEAR 952.227-11 which permits the contractor to retain title to such inventions, except under contracts for management or operation of a Government-owned research and development facility or under contracts involving exceptional circumstances or intelligence activities. Therefore, small businesses and nonprofit organizations normally need not request a waiver. See the patent rights clause in the draft contract in this solicitation. See DOE's patent waiver regulations at 10 CFR part 784.

2.26 NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES (AUG 1999)

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

2.27 LOCATE SOLICITATION, JOIN MAILING LIST, SUBMIT QUESTIONS, VIEW AMENDMENTS OR QUESTIONS AND ANSWERS (JAN 2003)

If you would like to receive notifications related to this specific solicitation, submit questions on the content of the solicitation, or view amendments or questions and answers, you should locate this solicitation, and then follow the appropriate directions:

LOCATE SOLICITATION

- Go to the IIPS website at <http://e-center.doe.gov> and click on “Browse Opportunities”, or login in if you are registered.
- Click on any of the options for viewing the solicitation (whichever is easiest for you to locate this solicitation).
- Click on “Enter IIPS”.
- Locate and click on the solicitation number to view “Synopsis and Solicitation Information”.
- Click on hyperlink under “File Attachments” or “URL Links” to access the full solicitation or program notice.

JOIN SOLICITATION MAILING LIST.

Click on the “Join Solicitation Mailing List” button at the top of the page, enter the required information, and submit. After you have joined the list, you should receive an email when a solicitation message is posted. Even though you have joined the mailing list, you should visit the solicitation page periodically to ensure that you have the latest information.

VIEW AMENDMENTS.

Click on the yellow folder next to the solicitation number to view amendments and solicitation messages; or follow directions for “Locate Solicitation” to view a conformed copy of the solicitation (a line in the margin annotates changed sections).

SUBMIT QUESTION ON THE CONTENT OF THE SOLICITATION.

Click on the “Submit Question” button at the top and enter required information. You will receive an electronic notification that your question has been answered. DOE will try to respond to a question within 5 days, unless a similar question and answer have already been posted on the website.

VIEW QUESTIONS AND ANSWERS.

Click on the “View Questions” button at the top of the page. If no questions have been submitted and answered, a statement to that effect will appear at the top of the page. You should periodically check the IIPS website for new questions and answers.

SECTION III -SOLICITATION-APPLICATION PREPARATION INSTRUCTIONS

3.1 APPLICATION PREPARATION INSTRUCTIONS (JAN 2003)

To aid in evaluation, applications shall be clearly and concisely written. All pages shall be appropriately numbered and identified with the name of the applicant, the date, and the solicitation number to the extent practicable. Application files are to be formatted in one of the following software applications:

Adobe Acrobat PDF, Word or WordPerfect.

For consistency, the applicant is instructed to use the file names specified below,. Filename extensions shall clearly indicate the software application used for preparation of the documents (i.e., "xxx.wpd" for WordPerfect, "xxx.pdf" for Adobe Acrobat, or "xxx.doc"for Word files, etc.).

MANDATORY FILES	FILENAME
Application	424.---
Certifications and Assurances	540_1-4.---
Project Summary (This file includes a (1) page single spaced public abstract)	540_1-2.---
Narrative	TECHNICAL.---
Budget	4600.4.--- or 424a.---
Budget Narrative	BUDGET NARRATIVE.---

The application form (SF 424), Certifications and Assurances (NETL F540.1-4), Project Summary Sheet (NETL F540.1-2), and Budget Form (SF 424A or DOE F 4600.4) are available on the NETL homepage at:

<http://www.netl.doe.gov/business/faapiaf/main.html>.

Instructions for completion of the forms are contained on the back of each form. Questions on completion of the forms should be addressed to the Contract Specialist. You must complete the required information, type the name of the individual authorized to sign the form in the signature block, and save the file with the designated name for that form.

NARRATIVE

This file shall include a cover page indicating the solicitation number, name and address of the Applicant, point of contact, telephone/FAX number/E-Mail address, title of project, and date of application. It is requested that the narrative not exceed 35 PAGES DOUBLE spaced, using 12 point font, 1" margins, and when printed will fit on size 8 1/2" by 11" paper.

The narrative will consist of the Applicant's outline addressing the technical and management aspects of the assistance action, the Applicant's capabilities and what the Applicant will do to satisfy the requirements of the solicitation. Since the technical information contained in this section will be evaluated to determine such matters as understanding of the work to be performed, technical approach, and potential for completing the desired work, it should be specific and complete in every detail. The narrative should be practical and be prepared simply and economically, providing a straightforward, concise delineation of what it is the Applicant will do to satisfy the requirements of the solicitation.

To help facilitate the review process and to insure addressing all the review criteria, the applicant shall use the following format when preparing the narrative. This format relates to the technical evaluation criteria found in Section IV.

Technical Discussion

This section shall contain the major portion of the narrative. It shall be presented in as much detail as practical and the applicant shall provide the technical information as follows:

SCIENTIFIC AND TECHNICAL MERIT

Applicants should provide a comprehensive discussion that addresses the following factors:

- (1) a review of the developmental history or background of the proposed technology in relation to active research to measure and remove mercury from flue gas, how the proposed technical approach is different from past and current mercury removal practice(s), and evidence of a logical progression of the proposed effort;
- (2) a complete and detailed project description and the perceived technical feasibility of the project (based on sound scientific and engineering principles) in regards for its readiness for long-term field testing;
- (3) the degree to which the technology or methodology, if successfully developed as proposed, represents an important measurable advancement towards achieving the objectives of the solicitation;
- (4) the extent to which the project incorporates the use of existing air-pollution control devices to provide mercury control and the ability of the proposed test sites to address DOE's identified data gaps (Section 1.2-Table 3) regarding coal rank, equipment configuration, and equipment variables (SCA, operating temperature, etc.);
- (5) a description of the technology's economic benefits including co-pollutant control, the ability of the sorbent/technology to perform adequately in spite of potential variation in coal type, coal blends, burner design, plant size, and reduction in total mercury emissions;
- (6) rationale (supported via previous test results on actual coal-fired flue gas) for further testing of the technology at the proposed level of maturity;
- (7) evidence for potential replication and market penetration of the technique within the utility industry (in regards to its applicability to a variety of power plant configurations firing different ranks/blends of coal);
- (8) the potential impact of the technology on the sale and/or disposal of coal utilization byproducts such as fly ash and scrubber solids; and
- (9) the potential of the technology to meet/exceed the identified mercury removal targets.

TECHNICAL APPROACH/WORK PLAN DEFINITION:

The applicant shall provide a comprehensive discussion that addresses the following factors:

- (1) the current availability of the proposed technology at scales commensurate with the desired testing objectives and rationale for the duration of testing (minimum of one month up to six months at optimum process conditions);
- (2) a detailed project description (including process diagrams, hardware sketches, etc.) and plans necessary for the design, installation/modification, permitting, operation, and maintenance (if required) of the air pollution control device(s);
- (3) a Statement of Work (SOW)* that allows an evaluator to determine the quality, quantity, completeness, and realism of the work being proposed. The proposed SOW shall clearly describe and support in narrative form the work to be performed including a) details regarding the type, size, and availability of equipment to be used, the quality of the expected data, the plan for evaluating the effectiveness of the proposed technology, process, or concept, the reality of the operating conditions, the number of variable and levels to be tested, the length of the test run period, and sampling and sample analysis schemes, b) a detailed project and milestone schedules and a work breakdown structure (WBS) that divides the project into its associated tasks, and subtasks necessary to accomplish the project objective(s); the labor hours and justification required for each task, including a table showing labor hours and labor categories

(labor distribution plan), including those for any proposed subcontracting or consulting effort for each task and/or subtask; the proposed travel including the purpose, number of trips, origin and destination, trip duration, and number of personnel, c) a detailed description of how facilities, equipment, and support personnel or other resources will be applied to the proposed SOW, d) reporting and technology transfer activities, e) estimated quantity of work to be performed considering the sampling of mercury and the effectiveness of the proposed control technology(ies) under numerous test variables as measured with accurate, dependable mercury CEMs and validated with acceptable EPA mercury measurement methods, f) a rationale and logic diagram showing interrelationships between tasks and phases (if applicable), and g) a discussion of the notification sequence/chain of communication for any issues that impede the project and how plans to overcome them would be decided;

(4) a discussion on by-products sampling locations, how by-products obtained will represent equilibrium process conditions, and the impact of mercury control on the by-products. As it is possible that Hg may be released to the environment from multiple pathways (i.e. leaching, volatilization or microbial mobilization, proposals should address how the by-products could mobilize mercury to any and/or all of these pathways if appropriate. All successful applicants will be required to collect (during performance testing), store and ship any pertinent by-product materials (i.e. fly ash, and (if applicable) FGD materials including both solids and scrubber liquor) to an independent contractor of NETL's choice for analysis. In addition to total mercury, analysis will include both leaching and volatilization studies and may include biological and/or petrographic analysis using standard analytical protocols. Specifically, 6 five-gallon buckets of each material shall be collected from appropriate sample locations. This includes three samples of material pre-mercury control (baseline) and 3 post-mercury control samples (for each separate test condition). Measurement of mercury in all streams (including water) is necessary for a complete process mercury balance;

(5) a detailed plan for maintaining/disposing the system(s) following the end of the project; and

(6) the identification of, and commitment to, a viable technology transfer path to the utility industry at the earliest practicable time (no later than the current regulation compliance deadline of February 2008).

* Each applicant should prepare a separate quality assurance/quality control (QA/QC) plan for each host site proposed. The plan shall address how the applicant would provide the assessment and the control of the data quality with respect to, but not be limited to, each phase of evaluating the proposed technology(ies), sample collection phase, analytical phase, data analysis phase, ongoing mercury removal performance and verification, assessing both the negative and positive impacts on the power plant APCDs while determining mercury material balances, etc., determining the sequestration potential of captured mercury in all media utilized for removal, and determining the steps that would be taken for corrective action when pre-established specifications or conditions are not met. DOE/NETL anticipates that there will be the need for significant interaction between the Applicant Principal Investigator (PI) and the DOE Contracting Officer's Representative (COR) during the testing and sampling periods. Mercury measurements should be available on a real-time basis through the use of CEMs or S-CEMs in the sampling periods so that decisions can be made rapidly on revisions to the experimental plan and the determination of operating conditions for long-term operations. The statement of work should take into consideration the PI/COR interaction and suggest methods to keep the COR informed as to the progress of the project without the delays associated with formal reporting.

PROJECT MANAGEMENT, FACILITIES AND EQUIPMENT:

The applicant shall describe its capabilities by including discussions that:

(1) describe the credentials, capabilities, and experience (ie, prior research and development efforts toward control of pollutants in coal combustion flue gas, including that from coal-fired utilities and document the relevant experience in developing and executing quality assurance/quality control (QA/QC) plans and managing sampling efforts of air toxic emissions (e.g., mercury) utilizing CEM/S-CEMS and Ontario Hydro measurement techniques) of key personnel by including, in an appendix, resumes and other information consistent with and appropriate to the role each will play in the proposed project, including major subcontractors and document the relevant corporate experience (pollution control efforts relative to coal combustion flue gas, including that from coal-fired utilities) of participating organizations in past or current demonstration projects and the commitment to any teaming arrangement;

(2) discuss in detail the availability (percentage of time allocated to the project) of key personnel;

(3) discuss the project organization and structure delineating the technical and administrative roles, responsibilities and lines of authority among the various team organizations [including subcontractor(s), vendor(s), host utility(ies), etc.] and their key personnel ;

(4) discuss the management, coordination, and control procedures/systems that will be applied to the project; and

(5) document the type, quality, availability and appropriateness of existing facilities, equipment, and materials to be utilized in carrying out the proposed work.

The Department of Energy's, National Energy Technology Laboratory uses a specific format for Statement of Project Objectives in its awards. In solicitations such as this one, where the Government does not provide a Statement of Project Objectives, the Applicant is to provide one, which the DOE will then use to generate the Statement of Project Objectives to be included in the award.

All applications must contain a single, detailed Statement of Project Objectives that addresses how the project objectives will be met. The Statement of Project Objectives must contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below. The Statement of Project Objectives may be released to the public by DOE in whole or in part at any time. It is therefore required that it shall not contain proprietary or confidential business information.

The Statement of Project Objectives is generally less than 15 pages in total (Your Statement of Project Objectives is not considered as part of narrative page limitation). Applicants shall prepare the Statement of Project Objectives in the following format:

TITLE OF WORK TO BE PERFORMED
(Insert the title of work to be performed. Be concise and descriptive.)

A. OBJECTIVES (To be completed by applicant)

Include one paragraph on the overall objective(s) of the work. Also, include objective(s) for each phase of the work.

B. SCOPE OF WORK (To be completed by applicant)

This section should not exceed one-half page and should summarize the effort and approach to achieve the objective(s) of the work for each Phase.

C. TASKS TO BE PERFORMED (To be completed by applicant)

Tasks, concisely written, should be provided in a logical sequence and should be divided into the phases of the project. This section provides a brief summary of the planned approach to this project.

PHASE I

Task 1.0 - (Title)

(Description)

Subtask 1.1 (Optional)

(Description)

Task 2.0 - (Title)

PHASE II (Optional)

Task 3.0 - (Title)

D. DELIVERABLES (To be completed by applicant)

In this section, the applicant shall briefly describe what the principal technical contents of the reports will be. For example, the principal contents could be the results of processed data, the results of analyses and tests, abstracts or papers submitted to technical conferences, or summaries of workshops. This section is intended to briefly summarize technical contents only. Please note that the periodic, topical, and final reports shall be submitted in accordance with the "Federal Assistance Reporting Checklist" and the instructions accompanying the checklist. The checklist specifies the frequency, form, format, and file name conventions for reporting, not the principal contents.

E. BRIEFINGS/TECHNICAL PRESENTATIONS (If applicable)

The Recipient shall prepare detailed briefings for presentation to the COR at the COR's facility located in Pittsburgh, PA or Morgantown, WV. Briefings shall be given by the Recipient to explain the plans, progress, and results of the technical effort.

The Recipient shall provide and present a technical paper(s) at the DOE/NETL Annual Contractor's Review Meeting to be held at the NETL facility located in Pittsburgh, PA or Morgantown, WV.

BUDGET NARRATIVE

The following budget detail is required. Failure to provide the detailed cost information as described in the instructions will result in an incomplete application. If a minimum cost share is required by this solicitation, the applicant shall stipulate in the application the source and amount of cost sharing and the value of third party in-kind contributions proposed to meet the requirement. Additionally teaming members and subcontractors are also required to submit the below information with their budgets.

PERSONNEL -- In support of the proposed personnel costs, provide a supplemental schedule that identifies the labor hours, labor rates, and cost by labor classification for each budget year. Also indicate the basis of the labor classification, number of hours, and labor rates. An example of the basis for the labor classification and number of hours could be past experience, engineering estimate, etc. An example of the basis for the labor rates could be actual rates for the individuals who will perform the work or an average labor rate for the labor classification or a departmental average rate.

FRINGE BENEFITS -- Provide the method used to calculate the proposed rate amount. If a fringe benefit has been negotiated with, or approved by, a Federal Government agency, provide a copy of the agreement. If no rate agreement exists, provide a detailed list of the fringe benefit expenses (e.g., payroll taxes, insurances, holiday and vacation pay, bonuses) and their associated costs. Identify the base for allocating these fringe benefit expenses.

TRAVEL -- For each proposed trip, provide the purpose, number of travelers, travel origin and destination, number of days, and a breakdown of costs for airfare, lodging, meals, car rental, and incidentals. The basis for the airfare, lodging, meals, car rental, and incidentals must be provided, such as past trips, current quotations, Federal Travel Regulations, etc.

EQUIPMENT -- Provide an itemized list of each piece of equipment, its unit costs, and the basis for estimating the cost, for example, vendor quotes, catalog prices, prior invoices, etc.

SUPPLIES -- Provide an itemized list of supplies, identify the quantity of each item, its unit cost, and the basis for estimating the cost, for example, vendor quotes, catalog prices, prior invoices, etc.

CONTRACTUAL

Consultants -- Provide the hourly or daily rate along with the basis for the rate. Furnish resumes or similar information regarding qualifications or experience. Provide at least two invoices reflecting hourly or daily rates charged to customers other than the Government. A statement signed by the consultant certifying his or her availability and salary must be provided. If travel or incidental expenses are to be charged, give the basis for these costs.

Subcontractors -- Identify each planned subcontractor and its total proposed budget. Each subcontractor's budget and supporting cost detail should be included as part of the applicant's budget narrative. In addition, the applicant shall provide the following information for each planned subcontract: a brief description of the work to be subcontracted; the number of quotes solicited and received; the cost or price analysis performed by the applicant; names and addresses of the subcontractors tentatively selected and the basis for their selection; i.e. low bidder, delivery schedule, technical competence; type of contract and estimated cost and fee or profit; and, affiliation with the applicant, if any.

CONSTRUCTION -- Provide detail of construction costs, if applicable.

OTHER DIRECT COSTS -- Provide an itemized list with costs for any other item proposed as a direct cost and state the basis for each proposed item.

INDIRECT COSTS -- If indirect rates have been negotiated with or approved by a Federal Government agency, please provide a copy of the latest rate agreement. If you do not have a current rate agreement, submit an indirect cost rate proposal which includes the major base and pool expense groupings by line item and dollar amount. In either case, provide a breakdown of the proposed indirect costs for each of your accounting periods included in the proposal. Identify the rate and allocation base for each indirect cost, such as Overhead, General and Administrative, Facilities Capital Cost of Money, etc.

COST SHARING -- Identify the percentage level and source of cost sharing for the proposed project. Firm funding commitments are expected and documentation of those commitments must be included in the application. Additionally, the impact of DOE's cost share to the viability of the project must be addressed, to include justification for the need for Federal Funds.

NOTE: The total project cost (i.e. sum of Applicant and other participants plus DOE cost shares) must be reflected in each budget form.

A detailed estimate of the cash value (basis of and the nature, e.g., equipment, labor, facilities, cash, etc.) of all contributions to the project by each participant must be provided. Note that "cost-sharing" is not limited to cash investment. In-kind contributions (e.g., contribution of services or property; donated equipment, buildings, or land; donated supplies; or unrecovered indirect costs) incurred as part of the project may be considered as all or part of the cost share. The "cost-sharing" definition is contained in 10 CFR 600.30, 600.101, 600.123, 600.224, and OMB Circular A-110.

Fee or profit will not be paid to the recipients of financial assistance awards. Additionally, foregone fee or profit by the Applicant shall not be considered cost sharing under any resulting award. Reimbursement of actual costs will only include those costs that are allowable and allocable to the project as determined in accordance with the applicable cost principles prescribed in 10 CFR 600.127.

3.2 SUBMISSION REQUIREMENTS (JAN 2003)

ELECTRONIC SUBMISSION

Applications must be submitted through the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov> in accordance with the instructions in this solicitation. **ONLY APPLICATIONS SUBMITTED THROUGH IIPS WILL BE CONSIDERED FOR AWARD.**

ELECTRONIC SIGNATURE

Applications submitted through IIPS constitute submission of electronically signed applications. The name of the authorized organizational representative (i.e., the administrative official, who, on behalf of the proposing organization, is authorized to make certifications and assurances or to commit the applicant to the conduct of a project) must be typed in the signature block on the form to be accepted as an electronic signature. A scanned copy of the signed document is not required.

IIPS REGISTRATION

In order to submit an application, you must be authorized by the applicant (i.e., institution or business entity) to submit an application on its behalf and you must register in IIPS. You are encouraged to register as soon as possible. You only have to register once to apply for any DOE award. To register:

- Go to the IIPS website at <http://e-center.doe.gov>.
- Click on the “Register” button on the left.
- Click on the box that says, “Check this box for Acquisitions greater than Simplified Acquisitions threshold or financial assistance” and then click on the radio button next to the “Register only” option.
- Click on “Proceed to Form.”
- Read the “Security Alert” and click on “Yes” to proceed.
- Read the “Notice of Disclaimer” and click on “I Accept.”
- Complete the Registration Form.
- Click on “Submit Registration.” You will receive an acknowledgement confirming receipt of your registration.

Then you will receive an email confirming successful registration. If you do not receive an email confirmation within one business day, contact the IIPS Help Desk at 1-800-683-0751 and select option 1, or send an email to HelpDesk@e-center.doe.gov.

Note the user name on your confirmation and your password for future reference. You must use this user name and password for any applications submitted in IIPS.

SUBMIT APPLICATION

You are strongly encouraged to submit your application at least 24 hours before the deadline in order to have time to resolve any transmission problems. If you are registered in IIPS, you may use the IIPS test site at <http://doe-iips.pr.doe.gov/iips/busopor.nsf/TestSolicitation?OpenView&login> to practice submitting an application. You can also access the test site from the link provided at the top of each solicitation page.

To submit an application, complete the following steps:

STEP 1 -- PREPARE APPLICATION

Prepare all of the files in accordance with the instructions in this solicitation prior to starting the transmission process. You should submit the entire application package in one IIPS session (i.e., do not logoff before all the files are attached).

STEP 2 - LOCATE SOLICITATION AND CREATE APPLICATION

- Enter the IIPS website at <http://e-center.doe.gov>.
- Click on “Login” button on the left.
- Click on the radio button that says, “Industry Interactive Procurement System.”
- Enter your user name (as shown on your registration email confirmation) and password. (Note: These are case sensitive.)
- The “View Synopses and Solicitations as Sorted by....” screen will appear. Click on one of the choices and locate the solicitation.
- Click on the solicitation number and the Synopsis & Solicitation Information screen will appear.
- Click on “Create Application” (you may have to scroll to the right to locate the button) and complete the information on the Application Cover Page. Enter the project title and the principal investigator/project director, if any, in the “Subject” blank.

STEP 3 --- ATTACH FILES AND SUBMIT APPLICATION

- Click on “Submit Cover Page & Attach Files”, complete information, and submit.
- Click on “Attach Application” link.
- Attach each file in the corresponding block on the page and then click “Submit.”
- IIPS will provide an acknowledgement.
- Click on the link on the acknowledgement to verify submission. It will take you to your submission.
- In order to verify successful transmission at a later date, click on the yellow folder beside the solicitation number. Your application should appear.

QUESTIONS OR PROBLEMS WITH TRANSMISSION

View the “IIPS Frequently Asked Questions” by clicking on the “Help” button. You may also call 1-800-683-0751 and select option 1, or send an email to IIPS_HelpDesk@e-center.doe.gov, for help with the IIPS system. If you have questions on the content of the solicitation, follow the directions for “Submit Question on the Content of the Solicitation.”

IIPS USER GUIDE

Additional instructions are available in the IIPS User Guide. Click on the “help” button to access the guide.

3.3 REVISIONS, DELETIONS, AND WITHDRAWAL OF APPLICATIONS (JAN 2003)

REMOVE APPLICATION OR APPLICATION FILE(S) FROM IIPS

To delete or withdraw an application or an application file(s), send an email to the IIPS Help Desk requesting the application or file(s), be removed. Be sure to identify your user name, the applicant's name, and the subject, as shown on the cover page of the application.

SUBMIT REVISED APPLICATION

Follow the steps in “Submit Application or Pre-application” to submit a revised application (i.e. cover page and all required files).

SUBMIT REVISED FILE

After the Help Desk has removed the requested file from your application:

- Locate the solicitation.
- Click on the yellow folder next to the solicitation number.
- Click on the cover page of your submission, click on the “Attach Application” link, and attach the revised file. In the event that two files, with identical names, are included in an application, the file with the latest transmission date/time stamp will be considered for review, if it is received prior to the deadline.

3.4 UNNECESSARILY ELABORATE APPLICATIONS AND FILE SIZE LIMITATIONS (JAN 2003)

Unnecessarily elaborate applications beyond those sufficient to present a complete and effective response to this solicitation are not desired. Elaborate art work, graphics and pictures may increase the document's file size. It is suggested that in preparing your application that you create files less than 5 MB. However, this file size may not be appropriate in all situations. As the nature of the application may create large files, applicants may wish to use “Zip” file compression software such as WinZip. Using this compression software will diminish the file size, thus reducing the time needed to upload and download an application.

3.5 TREATMENT OF PROPRIETARY INFORMATION (AUG 1999)

An application may include technical data and other data, including trade secrets and/or privileged or confidential commercial or financial information, which the applicant does not want disclosed to the public or used by the Government for any purpose other than application evaluation. To protect such data, the applicant should specifically identify each page including each line or paragraph thereof containing the data to be protected and mark the cover sheet of the application with the following Notice as well as referring to the Notice on each page to which the Notice applies:

NOTICE OF RESTRICTION ON DISCLOSURE AND USE OF DATA

The data contained in pages [] of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data therein to the extent provided in the award. This restriction does not limit the Government's right to use or disclose data obtained without restriction from any source, including the applicant.

DOE shall not refuse to consider an application solely on the basis that the application is restrictively marked.

3.6 APPLICATION SUBMISSION REQUIREMENTS FOR PARTICIPATING DOE M&O CONTRACTORS, NON-DOE FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS (FFRDC'S) OR FEDERAL AGENCIES (JAN 2003)

In addition to the application information to be provided by the applicant as set forth in other parts of this Section, the following additional requirements are required if your application includes work to be performed by a DOE M&O contractor, Non-DOE FFRDC, or Federal agency:

JUSTIFICATION

For participation by a DOE M&O contractor, authorization is required from the DOE Contracting Officer. The applicant must submit a document from the DOE Contracting Officer or authorized designee stating that the DOE M&O contractor is authorized to participate in the proposed work effort.

For FFRDC contractors (other than DOE M&O contractors), the proposed use of such entity must be consistent with the FFRDC authority under its contract with the cognizant Federal agency and such work must not place the FFRDC in direct competition with the private sector.

For Federal agencies, the proposed effort must not place the agency in direct competition with the private sector. DOE will fund the other agency work through an interagency agreement.

WORK-SCOPE

The application must provide a scope of work for the effort to be performed by the applicant and a separate scope of work for the effort to be performed by the DOE M&O contractor, FFRDC, or Federal agency. If the applicant is teaming with a DOE M&O contractor, see DOE Order 412.1-Work Authorization System (<http://www.directives.doe.gov/>) for further submission instructions regarding Field Work Proposals, which is the vehicle used to fund the DOE M&O contractor.

BUDGET INFORMATION

In addition to the Application for Federal Assistance (SF 424), the application must include a budget page with budget information for that portion of the applicant's effort in the project and for the DOE M&O, FFRDC or Federal agencies' portion of the project. The budget information should be submitted in the same format and level of detail as indicated above for the purposes of evaluation. An applicant's cost sharing requirement shall be based on the total cost of the project, including the applicant, FFRDC, DOE M&O or Federal agencies' portions of the effort.

TEAMING AGREEMENT

Describe the managerial arrangement between the applicant and the DOE M&O contractor, FFRDC or Federal agency. DOE will review the application to determine that it meets these criteria and reserves the right to reject any application that fails to do so.

SECTION IV - SOLICITATION -EVALUATION AND SELECTION

4.1 INTRODUCTION (MAY 2000)

This section contains the evaluation approach as well as the individual criteria to be used in the evaluation of applications.

4.2 GENERAL (JULY 1999)

It is the policy of DOE that any financial assistance be awarded through a merit-based selection process which means a thorough, consistent and independent examination of applications based on pre-established criteria by persons knowledgeable in the field of the proposed project.

4.3 PRELIMINARY REVIEW (JAN 2003)

Prior to a comprehensive evaluation, applications will undergo an initial review to determine whether the information required by the solicitation has been submitted and is properly completed. Applications will be reviewed for relevance to the Large Scale Mercury Control Technology Field Testing Program - Phase II program and for responsiveness to the requirements of the solicitation. Solicitations that require cost-sharing will be reviewed to insure that this requirement has been met. Applications will be reviewed to assess the Applicant's eligibility under the lobbying, EPAct and Simpson-Craig Amendment requirements. Failure to successfully meet any one of these preliminary review criteria may result in the elimination of the application and no further consideration in the Comprehensive Evaluation. In the event that an application is eliminated, a notice will be sent to the Applicant stating the reason(s) that the application will not be considered for financial assistance under this solicitation.

4.4 COMPREHENSIVE EVALUATION (AUG 1999)

Applications passing the preliminary evaluation shall be subject to a comprehensive evaluation in accordance with the evaluation criteria listed in this section.

The technical evaluation is conducted to determine the merits of the application with regard to the potential success of the project as well as future commercial applications. Comprehensive evaluation results in a numerical score for each application against each of the technical evaluation criteria.

The Environmental, Health, Safety, and Security (EHSS) Evaluation, which is not point scored, is conducted to determine the completeness of the Environmental Questionnaire, and to assess the applicant's awareness of EHSS requirements for mitigating project related EHSS risks and impacts.

The budget evaluation, which is not point scored, is conducted to determine the completeness of the budget estimate, appropriateness and reasonableness of the budget, and to assess the applicant's understanding of the Statement of Project Objectives.

4.5 TECHNICAL EVALUATION CRITERIA (AUG 1999)

Applications submitted in response to this solicitation will be evaluated and scored in accordance with the criteria listed below:

Criterion 1 (50%) - Scientific and Technical Merit

For criterion 1, the application will be evaluated to determine the scientific and technical merit of the proposed technology and the ability of the project to achieve the objectives of the solicitation. The overall quality, soundness, and reasonableness of the applicant's proposed work will be scored based on the following:

- (1) Awareness of previous and active research to measure and remove mercury from flue gas, distinction of the proposed technical approach from past and current mercury removal practice(s), and evidence of a logical progression of the proposed effort from previous studies;
- (2) Comprehensiveness of the project description and the degree of readiness for long-term field testing;
- (3) Likelihood of the proposed work to provide a measurable advancement of the current knowledge supporting the Department's mercury control program objectives;
- (4) The extent to which the project incorporates the use of existing air-pollution control devices to provide mercury control and addresses DOE's identified data gaps (Section 1.2-Table 3) regarding coal rank, equipment configuration, and equipment variables (SCA, operating temperature, etc.);
- (5) Adequacy of the description and magnitude of the technology's economic benefits including co-pollutant control, the ability of the sorbent/technology to perform adequately in spite of potential variation in coal type, coal blends, burner design, plant size, and reduction in total mercury emissions;
- (6) Adequacy of discussion (supported via previous test results on actual coal-fired flue gas) for further testing of the technology at the proposed level of maturity;
- (7) Clarity and adequacy of the applicant's rationale, technical basis, and knowledge of the potential market size for the proposed technology(ies). Evidence of sound science and engineering principles to address and resolve any limitations for potential commercial application;
- (8) Adequacy of the discussion on the potential impact of the technology on the sale and/or disposal of coal utilization byproducts such as fly ash and scrubber solids; and
- (9) The adequacy and reasonableness of the discussion of the technical performance of the proposed technology to achieve or surpass the solicitation's mercury removal objectives.

Criterion 2 (30%) - Technical Approach & Work Plan Definition

For criterion 2, the application will be evaluated to determine the overall quality, soundness, and reasonableness of the applicant's technical approach and work plan definition based on the following:

- (1) Evidence of technology availability at the scale proposed and adequacy of the rationale for the duration of testing (minimum of one month up to six months at optimum process conditions);
- (2) Thoroughness of the project description (including process diagrams, hardware sketches, etc.) and plans necessary for the design, installation/modification, permitting, operation, and maintenance (if required) of the air pollution control device(s);
- (3) The quality, quantity, completeness, and realism of the Statement of Work (SOW)* that describes the work to be performed including a) details regarding the type, size, and availability of equipment to be used, the quality of the expected data, the plan for evaluating the effectiveness of the proposed technology, process, or concept, the reality of the operating conditions, the number of variable and levels to be tested, the length of the test run period, and sampling and sample analysis schemes, b) detailed project and milestone schedules and a work breakdown structure (WBS) that divides the project into its associated tasks, and subtasks necessary to accomplish the project objective(s); the labor hours and justification required for each task, including a table showing labor hours and labor categories, including those for any proposed subcontracting or consulting effort for each task and/or subtask; the proposed travel including the purpose, number of trips, origin and destination, trip duration, and number of personnel; the clarity and adequacy of the narrative portion of the statement of work (SOW) including reporting and technology transfer activities, detail and reasonableness of the estimated quantity of work to be performed

considering the sampling of mercury and the effectiveness of the proposed control technology(ies) under numerous test variables as measured with accurate, dependable mercury CEMs and validated with acceptable EPA mercury measurement methods, and soundness of identified mitigation strategies for potential problems or significant delays that could affect the project schedule;

- (4) The detail, logic, and completeness of the discussion of by-product sampling locations necessary for plant-wide mercury balances, methods to ensure equilibrium collection conditions, the impact of mercury control on by-products, and possible by-product re-evolution mechanisms;
- (5) The logic and soundness of the plan for maintaining/disposing the system(s) following the end of the project; and
- (6) Evidence of early commercialization potential.

To qualify for the highest rating possible on this criterion, the applicant must provide a quality assurance/quality control (QA/QC) plan for each test site proposed. The plan shall address how the applicant would provide the assessment and the control of the data quality with respect to, but not be limited to, each phase of evaluating the proposed technology(ies), sample collection phase, analytical phase, data analysis phase, ongoing performance, assessing both the negative and positive impacts on the power plant APCDs while determining mercury material balances, etc., determining the sequestration potential of captured mercury in all media utilized for removal, and determining the steps that would be taken for corrective action when pre-established specifications or conditions are not met.

In addition, each applicant must have a letter of commitment from each host utility providing evidence of the host sites willingness to permit the applicant to conduct tests on its site for the duration of the project. Those applicants selected for negotiation of award shall submit finalized host site agreements to DOE/NETL prior to award.

The applicant shall make all provisions in the Host Site Agreement for the access of personnel from DOE/NETL for all selected projects. Access shall be for the duration of the project at each host site. The applicant shall also make provisions in the Host Site Agreement for the possible access of personnel from the Environmental Protection Agency (EPA), and/or their respective sampling and quality assurance/quality control (QA/QC) contractors during performance testing if DOE/NETL so desires. EPA's participation could include the evaluation of mercury/multipollutant control technology performance by providing emission data measurement, mercury removal monitoring with comparable mercury CEMs or S-CEMs, and QA/QC support for various selected projects. EPA would only need access during specified periods of time and wouldn't be on site without some pre-negotiated, prior DOE/NETL notification to the host site.

Criterion 3 (20%) - Project Management, Facilities, and Equipment

For criterion 3, the application will be evaluated to determine the overall quality, soundness, and reasonableness of the applicant's project management, facilities, and equipment based on the following:

- (1) The adequacy of the credentials, capabilities, and experience (technical and managerial) of the partnering organizations and their key personnel in relation to the proposed effort(s), and evidence of relevant prior research and development efforts of similar type, size and complexity toward control of pollutants in coal combustion flue gas, developing and executing quality assurance/quality control (QA/QC) plans and managing sampling efforts of air toxic emissions (e.g., mercury) utilizing CEM/S-CEMS and Ontario Hydro measurement techniques including that from coal-fired utilities;
- (2) The reasonableness and acceptability of the percentage of key personnel time allocated to the project;
- (3) The clarity and suitability of the project organization and structure delineating the technical and administrative roles, responsibilities and lines of authority among the various team organizations [including subcontractor(s), vendor(s), host utility(ies), etc.] and their key personnel;

- (4) The completeness and acceptability of the management, coordination, and control procedures and systems that will be applied to the project;
- (5) The completeness of the discussion on type, quality, availability and appropriateness of existing facilities, equipment, and materials to be utilized in carrying out the proposed work. No consideration will be given for equipment included as a cost element in the proposed budget.

4.6 BUDGET EVALUATION CRITERIA (JULY 1999)

The budgets narrative will be evaluated in order to:

- a) determine the level of verifiable cost sharing;
- b) ensure that all work elements included in the Statement of Project Objectives have associated costs, and that those cost appear appropriate and reasonable for the effort proposed; and
- c) assess the applicant's understanding of the Statement of Project Objectives.

4.7 RELATIVE ORDER OF IMPORTANCE OF EVALUATION CRITERIA (JAN 2003)

The technical evaluation is more important than Budget and Environmental Evaluations, however, the Budget and Environmental Evaluations shall be considered in making the selection decision.

4.8 APPLICATION OF PROGRAM POLICY FACTORS (NOV 2000)

These factors, while not indicators of the Application's merit, e.g., technical excellence, budget, applicant's ability, etc., may be essential to the process of selecting the application(s) that, individually or collectively, will best achieve the program objectives. Such factors are often beyond the control of the Applicant. Applicants should recognize that some very good applications may not receive an award because they do not fit within a mix of projects which maximizes the probability of achieving the DOE's overall research and development objectives. Therefore, the following Program Policy Factors may be used by the Source Selection Authority (SSA) to assist in determining which of the ranked application(s) shall receive DOE funding support.

1. The desirability of selecting projects which represent a diversity of advanced, high-risk, long-term technologies;
2. The desirability of selecting a group of projects which represents a diversity of geographic areas; and/or
3. The desirability of supporting complementary efforts or projects, which, when taken together, will best achieve the research goals and objectives.

The above factors will be independently considered by the SSA in determining the optimum mix of applications that will be selected for support. These policy factors will provide the SSA with the capability of developing, from the competitive solicitation, a broad involvement of organizations and organizational ideas, which both enhance the overall technology research effort and upgrade the program content to meet the goals of the DOE.

4.9 BASIS FOR SELECTION AND AWARD (MAY 2000)

The Department of Energy anticipates the award of one or more financial assistance instruments to those applicants whose applications are determined to be in the best interest of the Department in achieving the program objectives set forth in this solicitation. Selection of an application by the Department will be achieved through a process of evaluating and comparing the relative merits of the applicant's complete applications, in accordance with all of the evaluation factors set forth in this section.

This process reflects the Department's desire to accept an application based on its potential in best achieving program objectives, rather than solely on evaluated technical merit or budget. Accordingly, the Department of Energy may select for an award all, none, or any number or part, of an application, based on its decision as to which meritorious applications best achieve the program objectives set forth in this solicitation.

It is important for applicants to note that selection for negotiations will be made entirely on the basis of applications submitted. Applications should, therefore, address specifically the factors mentioned in the evaluation criteria, and not depend upon reviewers' background knowledge.