

FINANCIAL ASSISTANCE FUNDING OPPORTUNITY ANNOUNCEMENT



U.S. Department of Energy

National Energy Technology Laboratory

“RESTRUCTURED FUTUREGEN”

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NOTE: REQUIREMENTS FOR GRANTS.GOV

Where to Submit: Applications must be submitted through Grants.gov to be considered for award. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements carefully and start the process immediately. Remember you have to update your CCR registration annually. If you have any questions about your registration, you should contact the Grants.gov Helpdesk at 1-800-518-4726 to verify that you are still registered in Grants.gov.

Registration Requirements: There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See www.grants.gov/GetStarted. Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/assets/OrganizationRegCheck.pdf> to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the CCR registration process. Applicants, who are not registered with CCR and Grants.gov, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible.

IMPORTANT NOTICE TO POTENTIAL APPLICANTS: When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

Microsoft Vista and Office 2007 Compatibility

Grants.gov is currently incompatible with both the new Microsoft (MS) Vista Operating System and the new Microsoft (MS) Office 2007 versions of Word, Excel, and Power Point. In order to create and submit your application to Grants.gov, you must find a computer with a previous version Microsoft Operating System, such as Windows XP.

If you attach a file created using MS Office 2007, you will not get an error message when you submit the application, HOWEVER, your entire application will not be able to be processed or accepted at Grants.gov and will not reach DOE. Grants.gov can accept applications with attachments created in MS Office 2007 if the attachments are saved in the prior format. See the http://www.grants.gov/assets/Vista_and_office_07_Compatibility.pdf for detailed instructions on how to do this. A file created in MS Office 2007 can be identified by the "x" at the end of the file extension, for example "sample.docx" for a Word file. Contact Grants.gov at 1-800-518-4726 with any questions.

Questions: Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. Part VII of this announcement explains how to submit other questions to the U.S. Department of Energy.

Application Receipt Notices

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the e-mails. It

may take up to two (2) business days from application submission to receipt of e-mail Number 2. When the AOR receives e-mail Number 5, it is their responsibility to follow the instructions in the e-mail to logon to IIPS and verify that their application was received by DOE. The titles of the five e-mails are:

- Number 1 - Grants.gov Submission Receipt Number
- Number 2 - Grants.gov Submission Validation Receipt for Application Number
- Number 3 - Grants.gov Grantor Agency Retrieval Receipt for Application Number
- Number 4 - Grants.gov Agency Tracking Number Assignment for Application Number
- Number 5 - DOE e-Center Grant Application Received

The last e-mail will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last e-mail changes to:

Number 5 - DOE e-Center Grant Application Received and Matched

This e-mail will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

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** This Model Cooperative Agreement is being provided only for illustrative purposes. The specific terms and conditions of the final Agreement may vary depending on the specific application.

PART I – FUNDING OPPORTUNITY DESCRIPTION

A. GOAL

The United States Department of Energy, National Energy Technology Laboratory (DOE/NETL, or DOE) is competitively soliciting applications for a program requirement titled “Restructured FutureGen.”

The Restructured FutureGen program is a cost-shared collaboration between the Government and industry to accelerate commercial deployment of very low, or near-zero, emissions Integrated Gasification Combined Cycle (IGCC) or other advanced clean coal-based power generation technology with Carbon Capture and Storage (CCS).

B. MISSION NEED AND BACKGROUND

The National Energy Policy (NEP) and DOE’s Strategic Plan recognize the significant role coal must play to meet rising U.S. electricity demand. With this Funding Opportunity Announcement (FOA), DOE revises its approach to the FutureGen Program to better achieve national objectives.

Today, more than ever, the FutureGen concept holds great promise for sustaining near-term coal utilization. Eliminating environmental barriers to coal use through cleaner energy generation technologies such as IGCC-CCS would enable the continued use of secure, domestic coal resources for our future energy needs. Widespread replication of this technology by the private sector would help to meet the energy and environmental needs of our Nation’s expanding economy, growing population, and rising standard of living. Absent the low emissions capability of IGCC-CCS and other coal based technologies, coal’s contribution to the Nation’s energy mix could be severely curtailed, thus limiting the fuel diversity of our electricity supply portfolio and increasing our dependence on more expensive and less secure sources of energy.

Changes in market realities have altered the energy/power and environmental landscape. These changes include significant escalation in material and labor costs for new power plants, a growing near-term interest in the promulgation of regulations for carbon dioxide (CO₂) emissions, and a growing trend by states to require coal plants to consider CCS. These changes, in particular those related to atmospheric emissions of CO₂, present great environmental challenges to the future of fossil-based power generation; pose serious potential barriers to the power industry to finance and build new coal-based generation capacity; and underscore the need to quickly demonstrate the commercial viability of a new generation of advanced coal-based power systems.

The Energy Information Administration forecasts the need for more than 200 Gigawatts of new power generation capacity for the U.S. by 2030. In response, the utility industry has proposed a number of new coal projects, including several that would utilize IGCC technology. However, due to challenges mentioned above, plans for many new coal-based power plants are being abandoned or postponed. So, while there is a growing demand for electricity, there is also a critical need to accelerate the commercial demonstration of advanced coal-based power technology that can economically meet a carbon-constrained future. Government cost-sharing is required to address the additional financial burden and risk associated with such early entrance of very low, or near-zero, emissions power plants. Once the risks are quantified and mitigated by the early plants, replication of the technologies is anticipated.

The Restructured FutureGen approach will focus on the challenges associated with control of the emissions of carbon and criteria pollutants. Technical, economic, and operational results from multiple projects will inform and guide the promulgation of regulations related to wide-scale carbon sequestration activities and at the same time will help establish technologies and protocols for CO₂

monitoring, mitigation and verification. The Restructured FutureGen approach will also address the critical technical feasibility questions surrounding advanced clean coal power plants.

FutureGen's integration of concepts and components is essential to proving the technical, economic and operational viability of coal-based power generation in a carbon conscious world. Integration issues such as the dynamics between upstream and downstream subsystems (e.g., among interdependent subsystems such as the coal conversion and power and carbon capture and storage systems) can only be addressed by operation of large-scale integrated facilities. Unless the production of electricity from coal integrated with storage of carbon dioxide can be demonstrated as commercially feasible and cost competitive across the U.S. (rather than in exceptional circumstances), the utility sector will not make the investments necessary to fully realize the potential of these technologies.

C. PROJECT DESCRIPTION

Under Restructured FutureGen, DOE requests applications for a commercial scale IGCC power plant or other coal-based power generation technology that meets the requirements set forth in Paragraph D below.

“Demonstration Unit” is defined under “APPENDICES/REFERENCE MATERIAL, ANNOUNCEMENT DEFINITIONS” (at the end of this Funding Opportunity Announcement).

The Demonstration Unit must have CCS integrated with the power generation technology. Demonstration Project Operations are expected for 3-5 years and must capture and store in a saline formation at least one million metric tons of CO₂ per year (1 MMT/yr) during this time period. Monitoring of the plume(s) of injected CO₂ must begin immediately when starting the Demonstration Project Operations and must continue for a minimum of 2 years immediately after cessation of the Demonstration Project Operations. In the event that ongoing facility operations at the Site (after the DOE cost shared Demonstration Project Operations) result in continued CO₂ injection, the two years of DOE cost-shared monitoring will run concurrently with the continued injection operations with the results of the monitoring reported to DOE. Additionally, the Demonstration Unit must reduce emissions of sulfur, nitrogen oxide, particulate matter, and mercury to very low levels (discussed in Paragraph D below).

The Project scope shall be the fully integrated facility and, subject to the provisions set out in Part III.B, DOE shall share the cost of the Demonstration Unit. See Part III – Section B for a detailed discussion of cost-sharing.

D. PRIMARY TECHNICAL GOALS AND FUNCTIONAL PERFORMANCE REQUIREMENTS

The goals of Restructured FutureGen are to:

- accelerate the deployment of CCS technology;
- establish the technical feasibility and economic viability of producing electricity from coal with very low, or near-zero, emissions (including CO₂) through a single, commercial-scale power train;
- verify the sustained, integrated operation and the effectiveness, safety and permanence of a coal conversion system with carbon sequestration;
- achieve a goal of approximately 90 percent capture of the carbon content in the syngas or flue gas; and,
- establish technologies and protocols for CO₂ monitoring, mitigation and verification.

The functional performance requirements for the project are:

- The demonstration project (including the power plant site(s), the saline formation sequestration site(s) and plume) must be located in the United States;
- At least 75 percent of the energy must be from U.S. coal. Coal is defined as anthracite, bituminous, subbituminous, lignite, and waste coals;
- The Demonstration Unit must be designed, constructed, and operated (on an annual average basis) with at least 50% of the energy output of the energy conversion system (e.g. gasifier or alternative technology) used to produce electricity and
 - for a gasification-based project produce at least 300 MW gross electricity output and at least 250 MW net electricity output; or
 - for a non-gasification project be at a commercially viable size;
- The project location must be consistent with adequate feedstock availability, market for products, and proximity to geologic formation(s) for sequestration (e.g., deep saline formations, depleted oil and natural gas reservoirs, unmineable coal seams, or other formations);
- Startup of operations of the Demonstration Unit must occur no later than December 31, 2015; and
- The Demonstration Unit must:
 - achieve a minimum capture rate of 81% of carbon content in the syngas or flue gas;
 - sequester CO₂ at an expected rate to achieve at least 1 MMT/yr in saline formation(s);
 - sequester the balance of captured CO₂ (in excess of 1 MMT/yr) either in a saline formation or other formation that provides for permanent storage (e.g., enhanced oil recovery or coal bed methane recovery applications);
 - remove at least 90 percent of the mercury emissions based on mercury content of the coal;
 - remove at least 99 percent of the sulfur emissions based on sulfur content of the coal, or if a project cannot achieve 99% due to the low sulfur concentration in the coal then it must achieve sulfur emissions of less than 0.04 lbs/million Btu;
 - reduce NO_x emissions to less than 0.05 lb/million Btu; and
 - reduce particulate emissions to less than 0.005 lb/million Btu.

CO₂ Sequestration Monitoring and Verification performance requirements are:

- Quantify storage potential of the geologic formation(s);
- Quantify and assess CO₂ capture, transport and storage aspects for the duration of the Demonstration Project (i.e., 3-5 years of DOE cost-shared operations of the Demonstration Unit and 2 years of continued Measurement, Monitoring and Verification (MMV) activities immediately following the DOE cost-shared operations of the Demonstration Unit);
- Monitor for leakage through the confining layers through usage of monitoring wells placed in an overlying formation;
- Detect and monitor surface leakage, if any occurs (capability to measure CO₂ slightly above atmospheric concentration of 380 parts per million (ppm), and demonstrate effectiveness of mitigation);
- Develop a comprehensive approach for public outreach to address and/or mitigate concerns pertaining to the proposed sequestration site; and
- Develop information necessary to estimate costs of future CO₂ management systems.

PART II – AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT.

DOE anticipates awarding either a Cooperative Agreement(s) or a Technology Investment Agreement(s) (TIA) under this program announcement.

A cooperative agreement shall be the appropriate instrument when the principal purpose of the relationship is the transfer of money or property to accomplish a public purpose of support or stimulation authorized by Federal statute, and the Government's substantial involvement is anticipated. A special award condition describing the Government's substantial involvement in the cooperative agreement is located in PART VI.B. A "model" cooperative agreement is a separate attachment to this announcement. This Model Cooperative Agreement is being provided only for illustrative purposes. The specific terms and conditions of the final Agreement may vary depending on the specific application.

A TIA is a special type of assistance instrument used to increase the involvement of commercial firms in the Department's research, development and demonstration (RD&D) programs. A TIA requires substantial Federal involvement in the technical and management aspects of the project. A TIA may be either a type of cooperative agreement or a type of assistance transaction other than a cooperative agreement, depending on the accounting principles and intellectual property provisions. Additional information, including TIA templates, can be found at 10 C.F.R. Part 603 and http://management.energy.gov/policy_guidance/715.htm.

Clauses may be added or deleted while negotiating terms for the specific projects.

B. ESTIMATED FUNDING.

DOE anticipates approximately \$290 million (through FY-09) will be available for incrementally funding project selection(s) under this FOA, and anticipates that an additional \$1.01 billion may become available in subsequent years. Future fiscal year funding is subject to appropriations from Congress

C. MAXIMUM AND MINIMUM AWARD SIZE

Ceiling (i.e., the maximum amount of DOE funding for an individual award made under this announcement): \$ None

Floor (i.e., the minimum amount of DOE funding for an individual award made under this announcement): \$ None

D. EXPECTED NUMBER OF AWARDS.

DOE anticipates making multiple awards under this announcement.

E. ANTICIPATED AWARD SIZE.

DOE anticipates award(s) ranging from \$100 million – \$600 million (DOE Share).

F. PERIOD OF PERFORMANCE.

Projects must propose start-up of operations of the Demonstration Unit by December 31, 2015. Demonstration operations are expected for 3-5 years that must capture and store in a saline formation at least one million metric tons of CO₂ per year (1 MMT/yr). Monitoring of the plume(s) of injected

CO₂ must begin immediately when starting the Demonstration Project Operations and must continue for a minimum of 2 years immediately after cessation of the Demonstration Project Operations (i.e. if injection continues after the 3 to 5 years of DOE cost shared Demonstration Project Operations, two years of DOE cost shared monitoring will run concurrently with the continued injection operations), with the results of the monitoring reported to DOE.

G. TYPE OF APPLICATION.

DOE will accept new applications under this announcement. 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 download and complete a separate application package in Grants.gov.

PART III – ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS.

All types of entities are eligible to apply, except other Federal agencies and nonprofit organizations described in section 501(c) (4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. Federally Funded Research and Development Center (FFRDC) may participate as a team member, but not as the prime Applicant (Ref. Para D below).

B. COST SHARING.

1. Cost Share: The Project scope shall be those activities specified in the Statement of Project Objectives related to the fully integrated Demonstration Unit defined (Page 48, Announcement Definitions) as a single IGCC (or alternative technology) power train, coupled with CCS. DOE shall share allowable costs on a pro-rata basis with the recipient. Allowable costs will be determined by DOE regulations, the applicable federal cost-principles and the cooperative agreement or TIA. Allowable costs may include costs for design, procurement, construction, operations and other project related expenditures necessary to accomplish the Project scope.

Except as set forth in subparagraph (2), DOE's maximum contribution to a project shall be the lower of: i) the incremental cost of implementing CCS and other FutureGen goals on the Demonstration Unit when compared to a state of the art facility without such technology, or ii) 50% of the total allowable project cost. DOE's maximum contribution will be negotiated prior to cooperative agreement award and will form the basis for the cost-sharing ratios set forth in the agreement.

Example 1: If an Applicant proposes a greenfield IGCC project that would cost \$1 billion without CCS and \$1.3 billion with CCS, DOE's maximum contribution to the project is \$300 million. In this case the Recipient will share 77 percent of the cost on an invoice by invoice basis. DOE will share 23 percent.

Example 2: If an Applicant proposes a project to retrofit CCS to an existing facility at a cost of \$400 million, DOE's maximum contribution to the project is \$200 million. In this case, the Recipient will share 50 percent of the cost on an invoice by invoice basis. DOE will also share 50 percent.

Example 3. If an Applicant proposes a plant that is currently under construction, but not yet completed at the time of source selection, DOE will recognize the cost to complete the plant and the cost of adding CCS in formulating the cost share ratio. To illustrate, if the cost to complete the plant is \$500M and the incremental cost of CCS is \$400M, then DOE would contribute up to \$400M (44 percent of \$900M). Alternatively, if the cost to complete the plant is \$300M and the incremental cost of CCS is \$600M, then DOE would contribute up to \$450M (50% of \$900M).

Incremental costs include, but are not necessarily limited to:

- Gasifier or boiler modifications,
- Turbine modifications to account for high-hydrogen combustion,
- CO₂ separation, compression, pipeline transportation and injection,
- CCS operating costs for the duration of the demonstration,
- Measurement, monitoring and verification (MMV),
- Incremental cost of reducing sulfur, NO_x, particulate matter, and/or mercury emissions below permit levels,

- For the sequestration component: site characterization, permitting, acquisition of mineral rights required, and liability insurance.

Due to substantial parasitic power requirements of necessary equipment (e.g., increased demand on the air separation unit, large CO₂ compressors), the installation and operation of CCS will result in decreased electrical output from the Demonstration Unit. Because DOE is treating the costs (e.g., fuel) to produce electricity as an allowable cost for cost sharing purposes, a separate charge for power supplied to the sequestration component will not be allowed, nor will DOE share in any costs associated with reduced or lost opportunity. Such costs will not be considered as cost-sharing.

DOE will not share in the acquisition costs of any fuel other than coal, under Restructured FutureGen.

Total allowable cost is the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs. The recipient's share must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR Part 600 for the applicable cost sharing requirements.)

2. Cost growth. DOE is under no obligation to share any cost growth (i.e., costs incurred during the Demonstration Project that are more than those estimated at the date of award). DOE does not plan to set-aside funds for cost growth.

Program income may be retained by the recipient to satisfy recipient cost-sharing requirements in accordance with 10 CFR 600.314 or 10 CFR 603.835

3. Unallowable Costs. Reference 10 CFR Part 600 and applicable subparts B, C, and D for allowable cost guidance.

C. MANDATORY ELIGIBILITY REQUIREMENTS.

Applications that fail to meet one or more of these mandatory requirements will be rejected at the initial review stage. In the event that an application is so rejected, a notice will be sent to the Applicant stating the reason(s) that the application will not be considered for an award under this Announcement. Applications passing the initial review shall be subject to a comprehensive evaluation.

- The entire project (including the power plant site(s), the saline formation sequestration site(s) and plume) must be located in the United States; .
- The proposed project must be designed for, and operated with, coal from mines located in the United States, and uses at least 75% coal and/or refuse coal, as measured on a fuel input (Btu) basis.
- The Demonstration Unit must be designed, constructed, and operated (on an annual average basis) with at least 50% of the energy output of the energy conversion system (e.g. gasifier or alternative technology) used to produce electricity and
 - for a gasification-based project produce at least 300 MW gross electricity output and at least 250 MW net electricity output; or
 - for a non-gasification project be at a commercially viable size.
- The Demonstration Unit must achieve not less than 81 percent capture of carbon content in the syngas or flue gas from a single, commercial-scale power train.
- The Applicant must commit to sequester at least 1 MMT/yr of carbon dioxide captured from the demonstration in a saline formation and commit to sequester the balance of captured carbon dioxide in some other application that results in permanent sequestration.
- The Applicant must agree that it will not seek to hold the U.S. Government liable, or seek contribution from the U.S. Government, for environmental liabilities and third parties liabilities

arising from design, construction or operation of the Demonstration Unit except to the extent that such liabilities are expressly allowable under the applicable cost principles and then, only to the extent of funds obligated by the Government to the cooperative agreement or TIA.

- The Applicant must clearly identify all members of the project team and their roles.
- The application must be submitted by a responsible official of the applying organization authorized to legally bind the organization to performance of the award in its entirety.
- The application must be consistent with the objectives of this Announcement as stated in Part I.C.
- The application must contain sufficient technical, environmental, management, cost, financial, and budget information to enable a comprehensive evaluation as described below.
- The application must include a proposed schedule for start-up of operations of the Demonstration Unit no later than December 31, 2015.
- The Applicant must: 1) identify the proposed Demonstration Unit and sequestration sites and any alternative sites, and 2) provide evidence of access to, and use of, the proposed primary site(s) and any proposed alternative site(s) for the duration of the project.

D. OTHER ELIGIBILITY REQUIREMENTS.

Federally Funded Research and Development Center (FFRDC) Contractors.

FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application subject to the following guidelines:

Authorization for non-DOE/NNSA FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award and must not place the FFRDC contractor in direct competition with the private sector.

Authorization for DOE/NNSA FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE/NNSA FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complimentary to the missions of the laboratory, will not adversely impact execution of the DOE/NNSA assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector."

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful Applicant. Usually, DOE/NNSA will fund a DOE/NNSA FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The Applicant's cost share requirement will be based on a fixed percentage of the demonstration project cost for one train, equipped with CCS. If the power plant has multiple trains, only the cost of one train equipped with CCS will be considered.

FFRDC Contractor Effort. FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project.

Responsibility. The Applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the Applicant and the FFRDC contractor.

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE.

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select “Apply for Grants,” and then select “Download Application Package.” Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package.

B. LETTER OF INTENT AND PRE-APPLICATION.

1. Letter of Intent.

Letters of Intent are not required.

2. Pre-application.

Pre-applications are not required.

C. CONTENT AND FORM OF APPLICATION – SF 424.

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL- Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.**

1. SF 424 - Application for Federal Assistance.

Complete all required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the “Help Mode” (Icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 21 can be found on the Applicant and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances.

2. Other Attachments Form.

Submit the following files with your application and attach them to the Other Attachments Form. Click on “Add Mandatory Other Attachment” to attach the Project Narrative. Click on “Add Optional Other Attachment,” to attach the other files.

Project Narrative File - Mandatory Other Attachment

The project narrative must not exceed 250 pages, excluding appendices but including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper, with 1.5 line spacing with 1 inch margins (top, bottom, left, and right). EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than Arial 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Part VIII.D for instructions on how to mark proprietary application information. Save the information in a single file named “Project.pdf,” and click on “Add Mandatory Other Attachment” to attach.

The project narrative must include:

A) General

The Project Narrative consists of a discussion of: Technical Merit; Technical Readiness; Site Suitability; Environmental, Health, Safety, and Security (EHSS) Aspects; Project Organization and Project Management Plan; Funding Plan; and Financial Business Plan. Additional information including site documentation, team letters of commitment and agreements, project management plan, financial statements, financial model of project, financial commitment letters and project worksheets shall be placed in the Appendices. Sections 1 through 9 are submitted as the Project Narrative File, named Project.pdf. Appendices A through G are each submitted separately as separate files.

Information contained in the appendices shall not count toward the 250 page limit. No material may be incorporated in any application by reference as a means to circumvent the page limitation. Illustrations shall be legible with all text in legible font. Pages shall be sequentially numbered.

B) Project Narrative Format.

The Applicant shall include a Project Narrative in the format specified below to facilitate the review process and to ensure the Applicant addresses all the technical review criteria. This format relates to the technical evaluation criteria, Part V.A.2. Applicants shall follow the outline shown below, but additional sub-headings may be included as desired.

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10. APPENDICES (each submitted as a separate file under Add Optional Other Attachment on the Other Attachments Form)

| | |
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C) Project Narrative Content. The Project Narrative shall consist of the following information. In order to produce a comprehensive application for this Announcement, the Applicant is required to address, at a minimum, the areas listed below. The Applicant shall submit the information described in each section. If similar information is being requested in different areas of the application, the Applicant must provide it in each section to facilitate the DOE review and assure maximum consideration in the evaluation.

1. CONTENTS AND DEFINITIONS.

Information in this section is self explanatory.

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List of Abbreviations with Definitions

Definitions

2. SUMMARY AND INTRODUCTION

Provide a brief introduction to the project, including a description of the technology and an overview of the ownership and financing structure. Briefly introduce the main parties to the project, and provide the current status of the project. Provide a summary regarding how the project meets the eligibility requirements listed in Part III.C. Mandatory Eligibility Requirements.

3. TECHNICAL MERIT

Provide a comprehensive description of the technology(ies) employed and the technical plans, supporting the merit of the proposed project and including the following information:

- A description of the proposed project and the technology(ies) to be used, including preliminary process flow diagrams, equipment descriptions, mass and energy balances around each major process unit and the total plant, temperatures, pressures, and compositions of major streams, and the technical plan for achieving the goals proposed for the project;
- Information and data that demonstrate the technical and economic merit and ability of the proposed project to achieve the primary technical goals and functional performance requirements of this Announcement. See Part I D. Describe the technical feasibility, environmental performance and economic viability of the technologies to be demonstrated, including:

- Data that shows the effect(s) of the carbon capture and sequestration technology on systems integration and plant operations (staffing, space), economics (capital investment and operating costs), and performance (power requirements, carbon capture efficiency);
- Sufficient test and performance data to support the carbon capture goal of Restructured FutureGen;
- Sufficient test and performance data as evidence that the project can capture and sequester a minimum of 1 MMT/yr of carbon dioxide in a saline formation(s);
- Data and information to assess the impact of the carbon capture and sequestration processes on the cost of electricity (COE) for the proposed project;
- Calculations supporting the COE for the proposed project operations both with and without inclusion of the capture and sequestration processes; and
- For projects incorporating beneficial use of the carbon dioxide, such as for EOR, calculations supporting COE both with and without the sale of carbon dioxide, or other revenue streams associated with beneficial use(s);
- Information and data that illustrate the advancements and advantages of the proposed Demonstration Unit both on an integrated system and on a component basis;
- For projects with key physical or logistical elements that require close integration with one or more other systems for the project to succeed, provide information on closely integrated systems regardless of where they are located. Example: for an oxygen-blown IGCC plant planning to purchase oxygen from a third party who will construct a plant exclusively for this project, the application should provide documentation about the oxygen supplier and the proposed oxygen supply system;
- Plans for baseline testing, subsurface characterization at the sequestration site, project testing, performance monitoring, CO₂ sequestration MMV, and other activities for documenting achievements of the proposed project. These plans will be preliminary and summary-level:
 - Preliminary Baseline Testing Plan: Short description (approximately one page) defining normal operations of the Demonstration Unit, and the plan for acquiring data on the pre-existing conditions (e.g., initial air quality monitoring, initial water quality) at the Demonstration Unit site and at the sequestration site(s). Note that this information would support project design and planning and may support DOE NEPA compliance activities.
 - Characterization Plan for the Sequestration Site(s) Subsurface Environment: A summary-level plan for initial subsurface sequestration site characterization (e.g., seismic data acquisition and interpretation, drilling, logging, and coring of one or more exploratory wells [if needed], and formation testing, for both the primary and secondary target injection zones and the associated main seals [cap rock layers]). Note that this information would support project design and planning and may support DOE NEPA compliance activities.
 - Project Testing Plan: Short description (approximately one page) defining parametric testing for the Demonstration Unit (e.g., differing control, hardware and feedstock variables).

- Performance Monitoring Plan: Performance monitoring should include, but not be limited to, monitoring of the air emissions (emissions rates for criteria pollutants and mercury) from the Demonstration Unit (power train with CCS), waste water discharges (discharge rates, temperature, and loadings of chemicals introduced by the project processes), byproduct generation rates and byproduct quality (e.g., elemental sulfur production rates and purity) and the effects on the Demonstration Unit of integrating and operating the CO₂ capture and sequestration components of the project. The proposed monitoring should allow for verification of performance relative to the Restructured FutureGen program goals. In addition to gathering information on project performance and economics, the plan should direct the gathering of information for assessing environmental, health, safety, and security impacts; and the identification of maintenance and inspection issues.
- CO₂ Sequestration Monitoring, Mitigation & Verification (MMV) Plan: The planned injection process must have appropriate operational monitoring to verify quantities stored and the integrity of the transport and storage process. The MMV Plan should provide a means to address environmental concerns and, if needed, mitigation of leaks. The plan should also describe the scheme for monitoring at least two years after completion of the Demonstration Project Operations. The plan should address, among other things, the following:
 - Accurate quantification of storage potential of the geologic formation(s) (A summary-level plan for assessing the useable formation pore/fracture space and for accurately quantifying and recording through time the fluid pressures within the target sequestration formations and monitoring for migration and fate of the CO₂ within the target injection zone(s));
 - Accurate quantification and assessment of CO₂ capture and transport for the duration of the Demonstration Project Operations (including methods for recording through time the injection rates and the fluid pressures within the pipeline and the well head(s) of injection wells, and the fluid pressures within well annular space (if tubing is suspended within the cased portion of the well) and at the well bottom;
 - Monitoring for leakage through the confining layers through usage of monitoring wells placed in an overlying formation (monitoring within one or more overlying permeable zones will be required by DOE); and
 - Detection and monitoring of surface leakage, if any occurs (capability to measure CO₂ slightly above atmospheric concentration of 380 ppm), and demonstrate effectiveness of mitigation;
- Information about the project's capability and approach to transport and sequester at least 1MMT/yr of CO₂ in a saline formation(s), along with:
 - A summary-level plan for developing (in phases, if appropriate) the sequestration field, including drilling, logging, and testing of injection and monitoring wells; and
 - A description of the proposed transport facilities (e.g., pipeline or other means), compression or pump facilities, brine disposal facilities (if any), injection wells and monitoring wells, control systems, etc;
- A summary-level description to transport, beneficially use (if applicable) and permanently sequester excess CO₂ (i.e., that fraction of captured CO₂ that is in excess of the stated FutureGen goal of 1 MMT/yr to be sequestered in a saline formation);

- Describe the potential economic viability and cost competitiveness of the proposed technology(ies), including the cost impact associated with the addition of CCS on the proposed power train. There should be an explanation of how the project would provide to DOE the actual operational costs for the demonstration power train with and without CCS and what would be provided regarding the actual MMV costs and closure costs; and
- Describe how the technical and economic information generated under the project will be transferred to the general public, technical community, and DOE.

4. TECHNICAL READINESS

Provide a comprehensive discussion of the technical readiness of the proposed technology(ies) to achieve the objectives of this Announcement, including the following information:

- Scientific, engineering, technical, and scale-up information that supports the readiness of the proposed power train technology for Demonstration Unit (please address each major component or subsystem [i.e., air separation unit, gasifier, acid gas removal system, gas combustion turbine, other environmental control system(s), ...] that would have a significant technical advancement and therefore would raise the issue of readiness);
- Scientific, engineering, technical, and scale-up information that supports the readiness of the proposed carbon capture technology for the Demonstration Unit.;
- If novel processes or devices are proposed for CO₂ transport system elements, sequestration, or MMV, then describe the readiness of these processes and devices;
- For non-commercial technology, briefly address the availability of intellectual property rights, the status of business deals, etc. that could delay deployment;
- For the geologic sequestration effort, briefly address the availability of property rights, liability issues, the status of any third-party agreements, etc. that could delay implementation;
- For any proposed beneficial use of excess CO₂, briefly describe the technical readiness of any proposed new technologies that would be employed, any relevant intellectual property and real property issues, the status of any sales agreements or business deals, the status of any other third-party agreements that could delay implementation; and
- A proposed schedule for the completion of the design, construction, demonstration, monitoring and reporting phases of the project, with project start-up operations of the Demonstration Unit by December 31, 2015.

5. SITE SUITABILITY

Provide a comprehensive discussion of the suitability of the plant site(s) and the sequestration site(s) to achieve the project objectives, including the following information:

- A detailed description of the site location(s) along with a discussion of the capability and suitability of the site(s) and infrastructure (including utilities and corridors) to host the proposed power plant and carbon capture portions of the project. Descriptions of the existing infrastructure (e.g., roads, railroads, pipelines, electrical substations or potential interconnection point(s) for transmission lines, electricity transmission lines, useable rights-of-ways) should include an explanation of how the infrastructure can meet the needs of the proposed demonstration project

for access, availability of electric power, coal supply, water supply, natural gas supply, carbon dioxide transportation, electricity transmission, etc. To support DOE's environmental evaluation, add the following:

- A description of the land uses, including surface activities (e.g., mining, farming) and population density at the proposed site of the power plant. Add a description of features (such as lakes, wildlife refuges, national and state parks, unique habitats, wetlands, prime farmlands, historic properties, cultural assets, archeological sites) that may affect the proposed power plant construction or operations. Discuss how these features could be impacted as well as how adverse impacts could be mitigated.
- A description of the population density, population demographics and socioeconomic conditions around the site of the proposed power plant and in the nearby communities that might be affected by the project. Describe the available labor mix within the hiring region and the expected labor needs for constructing and operating the proposed project. Describe the expected impact on the local economy.
- A detailed description of the capability and suitability of the site(s) and infrastructure (such as utilities and corridors) to host the CO₂ transport and sequestration portions of the project, for the storage of at least 1 MM tons/yr of CO₂ in a saline formation(s), including:
 - A description of the existing or new pipelines, pipeline rights-of-way and routes, new or existing compression facilities, and any existing monitoring wells and control systems that might be used;
 - A geologic evaluation of the potential target formation(s) and the confining layers. A preliminary description of the surface and subsurface geology of the proposed plant and injection site(s), including as a minimum: (1) geologic column (see the Worksheets); background description of any drilling, mining or any other penetration of the subsurface strata, along with the oil and gas production history; (2) known underground sources of drinking water; (3) structure data, thickness data, fault data, seismic data; and, (4) a description of any modeling efforts (and results) addressing relevant aspects of the sequestration effort to predict injectivity and storage capacity, and to support the project and NEPA risk assessments;
 - A description of the land uses, including subsurface activities (e.g., mining, oil and gas extraction), and population density over the sequestration field and along the proposed CO₂ pipeline (or transport) route. Add a description of features (such as lakes, wildlife refuges, national and state parks, unique habitats, wetlands, prime farmlands, historic properties, cultural assets, archeological sites) a description of features (such as lakes, wildlife refuges, national and state parks) that may limit the amount of CO₂ that could be injected or limit the opportunities for drilling monitoring wells and MMV activities, subsurface characterization work, or injection well siting. Describe how the geologic sequestration activities might be limited, especially regarding property rights and potential for environmental impacts or restrictions on MMV activities. Describe potential impacts regarding the identified concerns and explain how adverse impacts might be mitigated; and
 - Describe the population density, population demographics and socioeconomic conditions along the proposed CO₂ pipeline route(s) and around the proposed sequestration site(s) and field(s).

- If applicable, a description of the capability and suitability of the site(s) and infrastructure to beneficially use and permanently sequester excess CO₂ (i.e., that fraction of captured CO₂ that is in excess of the stated FutureGen goal of 1MMT/yr to be sequestered in a saline formation). If all CO₂ will be sequestered in a saline formation, the description requested here is not necessary;
- Describe the availability of the proposed Demonstration Unit and CO₂ injection site(s) and alternatives. Evidence of site availability must be provided (in Appendix A) and may include copies of documents of ownership of the site(s), signed option to purchase the site(s) from the site owner(s), letter of intent by the site owner(s) to sell the site(s) to the Applicant or provide the Applicant access to the site(s) for the duration of the project. Describe legal access to the land above the CO₂ plume. (Include supporting documents in Appendix A); and

Describe the approach for securing inter-connection and sale of electricity. Identify the regional transmission organization(s) and owners of the local transmission system. Describe the nature of the regulatory system within the host state(s). Describe the key terms and/or status of the power purchase agreement and any other agreements for the sale/disposition of products.

6. EHSS ASPECTS

Provide a comprehensive discussion that identifies and assesses the potential EHSS issues and that explains the Applicant's approach(es) for identifying, assessing and/or mitigating the EHSS impacts of the proposed project, including the following information:

- Descriptions of the environment and potential impacts at the proposed site(s) and any alternatives.
 - Descriptions of the environmental setting and nearby environmental conditions, demonstrating the proposed site can fully meet public policy and other regulatory requirements. Attach in Appendix A (or in Appendix G, if requested there) any site maps, plot plans, site photographs, etc. necessary to support claims.
 - A brief description of the reasonable alternatives for the project, including the "no-action" alternative. The description must address technology-specific alternatives, process design alternatives, site-specific alternatives (i.e., alternative sites, alternative plans for a site, alternative disposal areas, etc.). For alternatives that were described under Technical Merit, only give a reference to those descriptions.
 - A brief description of changes to existing site(s), systems or processes, and local infrastructure (e.g., roads, railroads, wastewater treatment facilities and pipeline, water supply facilities and pipelines, landfills), if applicable.
 - Describe any constraints and impacts on water (groundwater and surface water) availability that could affect the proposed project. Describe competing uses of water and limits imposed by treaties, court decrees, State and Federal water laws, etc.
 - If the proposed Demonstration Unit would be located at an existing industrial/commercial site, describe the current emissions (toxic and non-toxic), effluents, noise emissions/levels, existing soil/groundwater contamination, and traffic conditions. Describe any potential liabilities that may exist.

- An assessment of environmental, health, safety, and security issues, including potential impacts (such as noise, odor, fogging, accident and explosion hazards, long-term chemical exposures, waste disposal), associated with the proposed Demonstration Unit facility and operations, including appurtenant facilities (e.g., electrical transmission lines, electrical substations, fuel beneficiation plants, water supply pipelines and intake structures, water treatment facilities, cooling towers, power plant stack, proposed railroad segments and loading/unloading facilities, compressor station, wastewater treatment facilities, storage ponds, access roads, fuel transportation routes. etc.).
- An assessment of environmental, health, safety, and security issues, including potential impacts, associated with the CO₂ transportation and injection options (pipeline or rail transport, compressor stations, injection well options) and with the identified geologic sequestration options (e.g., saline formation(s), EOR, coal seam(s), or other formation(s));
- Permitting and NEPA: Describe the compatibility of the demonstration at the proposed site(s) with the conditions of the surrounding environment and ability to meet environment, health, safety, security, and NEPA requirements (e.g., anticipated mitigations that might be required by DOE if this project is selected for award). The application shall identify anticipated major permits and any particular points of difficulty in obtaining these permits. Describe the nature of any expected public opposition related to this project during the permitting steps and the DOE NEPA activities;
- Local & Regional Planning: Describe any impacts to local or regional plans for fuel, water resources, solid waste disposal, recycling, land use, air quality, employment and economic development. Describe any commitments for reuse or recycling of resources or the commitment of resources.
- Risk Assessments: Describe any risk assessment work that has been done, both for the proposed Demonstration Unit and the sequestration efforts, and present the results;
- A Preliminary Public Outreach Plan: Briefly (approximately one to three pages) describes a comprehensive approach for public outreach to address and/or mitigate concerns (e.g., the project proponents, regulatory agencies, DOE and the public) pertaining to the proposed Demonstration Unit project and sequestration effort;
- Experience and Approach to Identification and Resolution of Environmental Issues: Identify key personnel and list their relevant experience and education for each of the following areas: air quality management, water resource management, wastes management, environmental permits, and other (noise, odor) environmental issues. Briefly describe their experience in addressing and resolving environmental concerns during the performance of previous projects.

7. PROJECT ORGANIZATION AND PROJECT MANAGEMENT PLAN:

Provide a discussion that supports the Applicant's organizational and management capabilities to successfully implement the project plan and achieve the objectives of the Announcement, including the following information:

- Information to support that the Applicant has assembled a Project Team with the skills and resources needed to implement the project. Identify the skills and resources provided by and

available to the Project Team necessary for implementing the proposed project and achieving the objectives of the Announcement. Provide signed agreements or letters from Project Team members demonstrating that they are fully committed to the project (include as Appendix B);

- Relevant prior or current corporate background and experience of the Applicant, Engineering Procurement and Construction (EPC) contractor, and suppliers of major subsystems or equipment, and other important team members which supports the capabilities of the Applicant and its team to design, permit, construct, operate and monitor the facility. The Applicant should demonstrate that the team members have a corporate history of successful completion for projects of similar scope and complexity;
- Descriptions of knowledge, experience, qualifications, and degree of involvement of proposed key personnel. Include resumes in the Resume File titled “bio.pdf” described in Part IV.C. Content and Form of Application – SF 424, Section C, Project Narrative Content;
- Proposed organizational structure with respect to responsibilities and authorities among elements of the project team; and
- A Project Management Plan for implementing the proposed project and achieving the objectives of the Announcement. The Project Management Plan establishes the baseline for the scope, schedule, and budget for the project and shall include the information below. The Project Management Plan should be provided as Appendix C;
 - A Work Breakdown Structure to at least three levels identifying tasks to be performed under each Budget Period;
 - A description of work to be performed under each task, known as a Statement of Project Objectives (for format see model cooperative agreement, which is a separate attachment to this announcement);
 - A Schedule Baseline for the entire project at the task level of detail. The Schedule Baseline shall follow the task structure of the Work Breakdown Structure. The schedule should include technical, business, financial, permitting and other factors to substantiate that the project will achieve the objectives of the Announcement in a timely manner. The schedule should include milestones and decision points; including a Milestone Plan to serve as the baseline for tracking performance of the project and will identify critical path project milestones (no less than 2 per calendar year) for the entire project;
 - A description of the project management system to be used for monitoring and control of scope, schedule, and cost including the methodology and implementation of reporting earned value. This system shall include a Cost Baseline, including the assumptions and basis of cost estimate, and Earned Value Management System (in consideration of ANSI/EIA 748-A, *Earned Value Management System*), to establish the budget for accomplishing the planned work and controlling/managing costs for all tasks necessary for performing the project. The Cost Baseline and Earned Value Management System should identify the planned cost for each task on a monthly basis. The Cost Baseline should follow the task structure of the Work Breakdown Structure. The Earned Value Management System shall be developed with the framework that will integrate cost, schedule and technical performance allowing the ability for measurement and management of performance;

- Project Communication Protocol, to establish the frequency and type of communication between the Recipient and DOE, dependent on the complexity, value, and program significance of the project, to ensure the team has the information necessary to effect timely and effective project management;
- A Risk Management Plan (RMP) that identifies potential risk elements and describes the proposed approach to analyze, and respond to perceived risks. Project risk events are uncertain future events that, if realized, impact the success of the project. Include the initial identification of significant technical, operational, resource, financial, cost, and management issues that have the potential to impede project progress and strategies to mitigate or minimize impacts from those issues. The RMP shall establish a protocol for reporting the results of the risk assessment; and
- An Environmental Management Plan (EMP) to establish a protocol for managing the potential environmental impacts of the project. The EMP shall monitor the potential impacts to air, land, and water resources, and waste production in terms of compliance monitoring, unregulated pollutant monitoring, and monitoring of any mitigation commitments per the NEPA process. The EMP shall establish a protocol for reporting the results of the monitoring effort.

8. FUNDING PLAN

At the time of application submission, the Applicant must provide a Funding Plan that demonstrates: 1) all non-Federal funds necessary for the first Budget Period will be available at the time of award, and 2) funds necessary for the remainder of the project will be committed by the end of BP-1. This Funding Plan must clearly show that the Applicant has a plan to obtain the funding for the entire non-DOE share of the total project cost. The Applicant must submit a funding plan that identifies all sources of project funds.

- The Applicant shall provide sufficient evidence to demonstrate the Applicant's financial capability to fund, or obtain funding, for the non-DOE share of the proposed project costs. The Applicant shall include a full description of any limitations, conditions or other factors that could affect the availability of Applicant's funding. If Third Party (i.e., not from the Applicant or its parent organization) financing will be a source of project funds, the Applicant shall discuss the terms and conditions of such financing. If the application is based on funds from third party sources, such as banks or the capital markets, the timing and conditionality of any such funding shall be clearly described; and
- This section must also include a schedule showing the detailed sources and uses of funds for the project, including the amount and timing for all funding to be provided by non-DOE sources. The project sources and uses of funds schedule should include sources and uses of funds by phase (e.g., project definition, design, construction, and demonstration) and the projected schedule for each phase should be stated. The sources and uses of funds schedule should be in agreement with the project's total estimated costs and schedule for expenditures. It is important that Applicants demonstrate that they have the capacity to fund the project development costs. Therefore, the sources and uses of funds statement should begin prior to the beginning of construction, and should identify the estimated annual budget for and source of funding to meet project development costs including amounts for legal, engineering, financial, environmental, overhead, and other development costs, including identification of sources and amounts of contingency funding for cost growth and overruns.

Financial Statements. The Applicant must provide current financial statements for all business quarters reported on in the current fiscal year, along with audited financial statements for the most recent three fiscal years. Any non-DOE source of financing (e.g., team member, subrecipient or third party) that will commit to funding some portion of the Applicant's share of the project costs must also provide audited financial statements as indicated above. If the Applicant or another party does not have audited financial statements, the Applicant or the party should provide equivalent financial statements prepared by the Applicant or the party, in accordance with Generally Accepted Accounting Principles, and certified as to accuracy and completeness by the Chief Financial Officer of the party providing the statements. Financial Statements should be provided in Appendix D.

If in-kind contributions are to be provided to the project, then the Applicant must demonstrate the basis for their valuation.

Financial Commitments. The Applicant must discuss the priority placed by the team's management on financing the project. This should include a discussion of management's decision to: (1) allocate internal resources, (2) obtain recourse financing, or (3) obtain non-recourse project financing. The degree of commitment to the project will be measured in part by the level of financial commitment assumed by project team members. The project team can also demonstrate its commitment by: (1) the level of cost sharing in the project and (2) commitment to cover all potential project cost increases.

The Applicant should include a commitment letter(s) to provide funds in accordance with the terms of this funding opportunity announcement from each organization submitting the application, which is committed to providing the non-Federal share of project funding. Commitments to provide funds shall be submitted in a letter signed by an officer of the corporation or other entity that is qualified to commit the Applicant's funding to the proposed project. Funds must be committed in accordance with the terms of this funding opportunity announcement and consistent with the application submitted.

If a third party (i.e., a party other than the organization(s) submitting the application) proposes to provide all or part of the required cost sharing, the Applicant must include a letter from the third party stating that it is committed to providing a specific minimum dollar amount of cost sharing. The relationship of the funds supplier to the Applicant, the amount of funds to be provided, and the timing of the funding shall be specified.

Commitment letters should identify the type of proposed cost sharing (e.g., cash, services, and/or property) to be contributed. If property or services are proposed, the Applicant should provide support for their valuation and explain how valuation was determined. If a property appraisal is used, the Applicant should provide a copy and an explanation of whether the property values used are acquisition, book, or replacement costs.

Commitment letters from the Applicant and third parties should be provided in Appendix F.

9. FINANCIAL BUSINESS PLAN

The Applicant must provide a financial business plan that is specific to this demonstration project. The financial business plan must be based on the economic and business assumptions developed in the application and should demonstrate that the project has adequate funding. This business plan should address all financing aspects of the project

The Financial Business Plan should include:

Project Parties. A description of the main parties to the project, including background, ownership and experience, proposed financial contribution to project, expected financial benefit to each party of the project.

Project Assumptions. A description and explanation for each of the financial (including a basis of cost estimate), economic, and operating assumptions for the project. The assumptions should be consistent with and supported by the information provided in the Technical Application.

Financial Projections. The financial projections should be on an annual basis, commence with the initial project phase and extend to the final closeout of the project. Projections should include a statement of revenues and expenses (income statement), balance sheet, and cash flow statement (sources and uses of funds). The projections should be adequately supported. The statements and schedules should be prepared using Excel™ 2003 (or more recent) software and the Excel based model should be provided in electronic format including cell formulas so that review of the model assumptions and calculations may be facilitated. See cautionary note on page 2 concerning Grants.gov compatibility with later version of Microsoft Products. The financial model should be included in the application as Appendix E.

Limited Recourse Project Financing. For projects employing non-recourse or limited recourse debt financing, provide a description of the Applicant's approach to, and the status of, such financing. Include copies of available funding commitments or expressions of interest from funding sources in Appendix F.

Contracts and Agreements. A description of all contracts, agreements, permits, licenses, and other arrangements that will need to be established or obtained to finance the project, and a description of any agreements to be entered into regarding the operation of the project and the responsibilities of the project parties.

Contract Bonding Practices. For proposed construction contracts or subcontracts, the Applicant must explain its contract bonding and/or surety/guarantor practices and how they will be applied if their application is accepted for Federal funding.

10. APPENDICES TO PROJECT NARRATIVE (each submitted as a separate file under Add Optional Other Attachment on the Other Attachments Form)

APPENDIX A: SITE DOCUMENTATION

File name: site.pdf

Provide documents supporting site availability, such as ownership of the site, signed option to purchase the site from the site owner, or letter of intent by the site owner to sell the site to the Applicant or provide the Applicant access to the site for the project. Provide deeds, site maps, plot plans, site photographs, and other documents which support the landowner's rights in the property. Save the information in a single file named "Site.pdf" and click on "Add Optional Other Attachment" to attach.

APPENDIX B: TEAM LETTERS OF COMMITMENT AND AGREEMENTS

File name: Team.pdf

Provide signed agreements or letters from team members demonstrating that the proposed team members are fully committed to the project. Save the information in a single file named

“Team.pdf” and click on “Add Optional Other Attachment” to attach.

APPENDIX C: PROJECT MANAGEMENT PLAN

File name: pmp.pdf

Provide a Project Management Plan including the following information: a Work Breakdown Structure identifying tasks to be performed under each Budget Period; a Statement of Project Objectives giving detailed description of work to be performed under each task; a Schedule Baseline for the entire project at the task level of detail; a Cost Baseline identifying the planned cost for each task on a monthly basis; a description of the project management system for monitoring and controlling scope, schedule, and cost including the methodology and implementation of reporting earned value; a Project Communication Protocol to establish the frequency and type of communication between the Recipient and DOE; and a Risk Management Plan that delineates the methodology that will be used to identify and quantify or assess risks. Save the information in a single file named “pmp.pdf” and click on “Add Optional Other Attachment” to attach.

APPENDIX D: FINANCIAL STATEMENTS

File name: fin_statement.pdf

Provide financial statements for the Applicant and for any team member, subrecipient, third party, etc. that will commit to funding some portion of the Applicant’s share of the project costs. Save the information in a single file named “fin_statement.pdf” and click on “Add Optional Other Attachment” to attach.

APPENDIX E: FINANCIAL MODEL OF PROJECT

File name: fin_model.xls

Provide a statement of revenues and expenses (income statement), balance sheet, and cash flow statement (sources and uses of funds) prepared using Excel™ 2003 (or more recent) software. The Excel based model should be provided in electronic format including cell formulas so that review of the model assumptions and calculations may be facilitated. Save the information in a single file named “fin_model.xls” and click on “Add Optional Other Attachment” to attach.

APPENDIX F: FINANCIAL COMMITMENT LETTERS

File name: fin_commitment.pdf

Provide financial commitment letters from the Applicant and third parties, including commitments or expressions of interest from funding sources for limited recourse project financing. Save the information in a single file named “fin_commitment.pdf” and click on “Add Optional Other Attachment” to attach.

APPENDIX G: PROJECT WORKSHEETS

File name: worksheets.doc

Complete and submit the following three (3) worksheets: Basic Project Parameters; Power Plant Facility Details; and Sequestration Facility Details for the project. These Worksheets can be found as a separate attachment to this announcement. Save all completed worksheets as one integrated PDF document named Worksheets.doc and click on "Add Optional Other Attachment" to attach.

Project Summary/Abstract File

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the Applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as the Department may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) with font not smaller than Arial 11 point. Save this information in a file named "Summary.pdf," and click on "Add Optional Other Attachment" to attach.

Resume File

Provide a resume for each key person proposed, including subrecipients and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. The biographical information for each resume must not exceed 2 pages when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) with font not smaller than Arial 11 point and should include the following information, if applicable:

Education and Training. Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.

Professional Experience. Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications. Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities. List no more than 5 professional and scholarly activities related to the effort proposed.

Save all resumes in a single file named "bio.pdf" and click on "Add Optional Other Attachment" to attach.

SF 424 A Excel, Budget Information – Non-Construction Programs File:

You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, "Budget Information – Non Construction Programs" form on the Applicant and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm. You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV. G – Funding

Restrictions). Save the information in a single file named "SF424A.xls," and click on "Add Optional Other Attachment" to attach.

Budget Justification File

Save the budget justification information, as specified below, in a single file named "Budget.pdf," and click on "Add Optional Other Attachment" to attach. Supporting cost detail shall be submitted as indicated by the instructions on the budget form and/or the supporting cost detail requirement below. The Applicant shall provide a detailed budget, identifying costs for each phase (Definition [if applicable], Design, Construction, and Demonstration) as well as for the total project. The proposed budget must include all costs (both DOE-funded as well as non-DOE funded costs, i.e., cost sharing). Narrative explanations of budget items should be provided to supplement the Cost Detail Requirements below.

The Applicant shall: (1) identify all contingency estimates (cost and schedule) in the project; (2) provide the underlying assumptions related to the contingency; (3) provide the engineering or cost-estimating basis for the contingency; and, (4) provide the Applicant's level of confidence that the contingencies are sufficient to account for project budget and schedule uncertainties.

COST DETAIL REQUIREMENTS

The following cost detail is required for the proposed cost elements. Applications should compute the total project value in "as spent"¹ dollars, including projected escalation. **Failure to provide the detailed cost information as described in the instructions will result in an incomplete application. Since cost sharing is required by this Announcement, therefore, 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 subrecipients are also required to submit the below information with their budgets. A sample format for providing this supporting documentation is available as a separate attachment to this announcement. See Budget Justification Guideline.xls.

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 period. 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 Rate -- Provide the method used to calculate the proposed rate amount. If a fringe benefit rate 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.

1

In this context, "as-spent" means current dollar or nominal dollar, where escalation and/or inflation are included. It represents the dollar value in the year that it would actually be received or paid.

Travel -- For each proposed trip, provide the purpose, number of travelers, travel origin and destination, number of days, and a breakdown of estimated 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, etc.

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

Supplies -- Provide an itemized list of supplies that have an acquisition cost greater than \$5,000, 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.

Subrecipients -- Identify EACH planned subrecipient and its total proposed costs. Each subrecipient's cost application and supporting cost detail should be included as part of the Applicant's cost application. In addition, the Applicant shall provide the following information for EACH planned subaward: 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 subrecipients tentatively selected and the basis for their selection (i.e., competitively selected - low bidder from 2 or more comparable (apples to apples) subcontract quotes; delivery schedule, or technical competence); type of subaward and estimated cost and fee or profit; and affiliation with the Applicant, if any.

Each recipient and subrecipient must comply with the cost principles, prescribed in 10 CFR 600.144(e), 226(a) or 331(c)(3), as applicable, to provide access to their supporting cost records and financial statements when required.

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.

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 -- Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates. 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 application 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 application. 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 and for individual budget periods. 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 including its basis and 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, 600.202, 600.224, 600.302, and 600.313.

Fee or profit will not be paid to the recipients of financial assistance awards. Fee or profit paid to any member of the proposing team having a substantial and direct interest in the project is unallowable. 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 by DOE, with reliance on the advice of DCAA, in accordance with the applicable cost principles prescribed in 10 CFR 600.127, 600.222, 600.317 or 10 CFR 600.318.

Royalty Information:

- (a) **Cost or Charges for Royalties** -- When the response to this Announcement 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 a 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 cooperative agreement item or component on which the royalty is payable.
 - (5) Percentage or dollar rate of royalty per unit.
 - (6) Unit price of Cooperative Agreement or TIA 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 Cooperative Agreement or TIA, the Applicant shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents.

Subaward Budget File(s)

You must provide a separate budget (i.e., budget for each budget year and a cumulative budget) for each subrecipient that is expected to perform work estimated to be more than \$650,000 or 50 percent of the total work effort (whichever is less). Use the SF 424 A Excel for Non Construction Programs or

the SF 424 C Excel for Construction Programs. These forms are found on the Applicant and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm. Save each Subaward budget in a separate file. Use up to 10 letters of the subrecipient's name (plus .xls) as the file name (e.g., ucla.xls or energyres.xls), and click on "Add Optional Other Attachment" to attach.

Federally Funded Research and Development Center (FFRDC) Contractors -- If your application includes work to be performed by a FFRDC contractor, include a brief description of the work to be performed and the dollar value associated with the work. Additionally, a Field Work Proposal must be completed and submitted in accordance with the instructions provided below:

Budget for DOE/NSA Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable.

If a DOE FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at http://management.energy.gov/business_doe/business_forms.htm. Use up to 10 letters of the FFRDC name (plus .pdf) as the file name (e.g., lanl.pdf or anl.pdf), and click on "Add Optional Other Attachment" in Field 11.

Other:

Environmental Questionnaire(s)

You must submit a separate Environmental Questionnaire for EACH location/site where work will be performed. The Environmental Questionnaire can be found at the following website: http://www.netl.doe.gov/business/forms/451_1-1-3.doc, or as a separate attachment to this announcement. Save all completed, signed questionnaires as one integrated PDF document named ENVQUES.pdf and click on "Add Optional Other Attachment" to attach.

Financial Management System

In order to qualify for a financial assistance award, the Applicant **must demonstrate a financial management system that satisfies 10 CFR 600.121 or 10 CFR 600.311, Standards for Financial Management Systems, by describing how its system meets the seven criteria outlined in 10 CFR 600.121(b) or 10 CFR 600.311(a).**

The major attribute of an acceptable financial management system is an accounting system that can accumulate, record, and report costs by project. Please include a signed letter certifying that you have reviewed and agree to comply with 10 CFR 600.121 or 10 CFR 600.311. Save the information in a single file named "FIN MGMT.pdf," and click on "Add Optional Other Attachment" to attach.

SF-LLL Disclosure of Lobbying Activities

If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

Summary of Required Forms/Files

Your application must include the forms from the application package and other documents as shown below:

| Name of Document | Format | File Name |
|--|--------|--------------------|
| SF 424 - Application for Federal Assistance | Form | N/A |
| Other Attachments Form: Attach the following files to this form: | Form | N/A |
| Project Narrative File (Mandatory Other Attachment)..... | PDF | Project.pdf |
| Other Attachments: | | |
| Appendix A – Site Documentation..... | PDF | site.pdf |
| Appendix B – Team Letters of Commitment and Agreements.... | PDF | Team.pdf |
| Appendix C – Project Management Plan | PDF | pmp.pdf |
| Appendix D – Financial Statements..... | PDF | fin_statement.pdf |
| Appendix E – Financial Model of Project..... | Excel | fin_model.xls |
| Appendix F – Financial Commitment Letters..... | PDF | fin_commitment.pdf |
| Appendix G – Project Worksheets..... | WORD | worksheets.doc |
| Project Summary/Abstract File..... | PDF | Summary.pdf |
| Resume File..... | PDF | Bio.pdf |
| SF 424A Excel - Budget Information for Non-Construction Programs File..... | Excel | SF424A.xls |
| Budget Justification File..... | PDF | Budget.pdf |
| Subaward Budget File(s)..... | Excel | See Instructions |
| Budget for DOE/NNSA Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable..... | PDF | See Instructions |
| Environmental Questionnaire(s)..... | PDF | ENVQUES.pdf |
| Financial Management System | PDF | FIN MGMT.pdf |
| SF-LLL Disclosure of Lobbying Activities, if applicable. | Form | N/A |

D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS.

If selected for award, DOE reserves the right to request additional information for any reason deemed necessary, including, but not limited to:

- a. Indirect cost information
- b. Other budget information
- c. Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- d. Representation of Limited Rights Data and Restricted Software, if applicable
- e. Additional Post Selection Information:

Award of a Cooperative Agreement or TIA requires additional and more detailed information than that needed for selection. Any deficiencies or omissions in the information provided in the application must be addressed and information must be in the appropriate format prior to award of a Cooperative Agreement or TIA. Due to the time required for preparation and review of the application, information may not be current and may need to be updated. Following selection, Applicants should expect that DOE will request information including, but not limited to, the following list. DOE will enter into negotiations regarding the final content and format of information listed below:

- Environmental Information Volume, available at www.netl.doe.gov/business/solicitations/2001pdf/41428/EIV_guide.pdf ;

- A fully detailed and properly formatted cost estimate which may be audited by DOE;
- An updated Funding Plan; an updated Excel-based model containing financial projections for the income statement, balance sheet, and cash flow statement for all phases of the project; an updated sources and application of funds statement covering all phases of the project; and current financial statements for the Applicant, funding sources, and critical vendors;
- Intellectual property information including unlimited rights data, limited rights data, restricted computer software, and protected data;
- A fully executed host site agreement between the Applicant and site owner and detailed site information;
- Major subcontracts for review by DOE to ensure consistency with regulations and policy; and
- Updated Project Management Plan.

DOE shall use this information as the basis for negotiation of the Cooperative Agreement or TIA, based on the model Cooperative Agreement or TIA attached to this announcement. DOE anticipates the negotiation period to last approximately 1 year.

E. SUBMISSION DATES AND TIMES

1. Pre-application Due Date.

Pre-applications are not required.

2. Application Due Date.

Applications must be received by October 8, 2008, 8:00:00 PM Eastern Time. You are encouraged to transmit your application well before the deadline. APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.

F. INTERGOVERNMENTAL REVIEW

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. FUNDING RESTRICTIONS.

Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. The cost principles for commercial organizations are in FAR Part 31.

Pre-award Costs. Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the Applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the Applicant does not receive an award or if the award is made for a lesser amount than the Applicant expected.

H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS

1. Where to Submit.

APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV TO BE CONSIDERED FOR AWARD. Submit electronic applications through the “Apply for Grants” function at www.Grants.gov. If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 or send an e-mail to support@grants.gov.

2. Registration Process.

You must COMPLETE the one-time registration process (all steps) before you may submit your first application through Grants.gov (See www.grants.gov/GetStarted). We recommend that you start this process at least three weeks before the application due date. It may take 21 days or more to complete the entire process. Use the Grants.gov Organizational Registration Checklists at <http://www.grants.gov/assets/OrganizationRegCheck.pdf> to guide you through the process. IMPORTANT: During the CCR registration process, you will be asked to designate an E-Business Point of Contact (EBIZ POC). The EBIZ POC must obtain a special password called “Marketing Partner identification Number” (MPIN). When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

3. Application Receipt Notices.

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the e-mails. It may take up to two (2) business days from application submission to receipt of e-mail Number 2. When the AOR receives email Number 5, it is their responsibility to follow the instructions in the email to logon to IIPS and verify that their application was received by DOE. You will need the Submission Receipt Number (e-mail Number 1) to track a submission. The titles of the five e-mails are:

Number 1 - Grants.gov Submission Receipt Number

Number 2 - Grants.gov Submission Validation Receipt for Application Number

Number 3 - Grants.gov Grantor Agency Retrieval Receipt for Application Number

Number 4 - Grants.gov Agency Tracking Number Assignment for Application Number

Number 5 - DOE e-Center Grant Application Received

The last e-mail will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last e-mail changes to:

Number 5 - DOE e-Center Grant Application Received and Matched

This e-mail will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

Part V - APPLICATION REVIEW INFORMATION

A. CRITERIA

1. Initial Review Criteria.

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the Applicant meets all eligibility requirements stipulated in Part III, Section C.1; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the FOA.

2. Merit Review Criteria.

THE APPLICATION AND APPENDICES WILL BE USED BY DOE FOR ALL ASPECTS OF THE EVALUATION.

The Technical Evaluation Criteria (Section 2.1) are 2 times as important as the Financial Evaluation Criteria (Section 2.2).

2.1. Technical Evaluation Criteria

Applications submitted in response to this Announcement will be evaluated and numerically scored against the technical evaluation criteria and factors listed below.

Criterion 1: TECHNICAL MERIT (30%)

- Likelihood that the project will achieve the goals and emissions criteria set forth in this FOA.
- Soundness and adequacy of the technical approach.
- Likelihood and degree to which the project shall exceed an 81 percent minimum capture rate and approach the 90 percent capture goal of the total carbon content in the syngas or flue gas.
- Likelihood that the project will safely and permanently sequester at least 1 MMT/yr of CO₂ in a saline formation and will safely and permanently sequester by some means the excess captured carbon.
- Likelihood that the project will advance technology beyond current state-of-the-art commercial technologies.
- Likelihood that the project can foster CCS on future power plants with only a modest increase in the COE.
- Adequacy of their plans for technology transfer.
- Adequacy of the baseline testing, project testing, performance monitoring, and MMV plans to assess project performance, economics, environmental impacts and safety.

Criterion 2: TECHNOLOGY READINESS (15%)

- Soundness and adequacy of the scientific, engineering, and technical information and data provided to support readiness of the proposed technology to achieve operations of the Demonstration Unit by December 31, 2015.
 - Readiness of the power train technologies and plan.
 - Readiness of the carbon capture technology and plan
 - Readiness of the other environmental control technologies and plan
 - Readiness of the proposed carbon transport and sequestration technologies and plans.

Criterion 3: SITE SUITABILITY (20%)

- Ability of the infrastructure and features at the proposed site(s) to: 1) meet the needs of the technology to be demonstrated, 2) demonstrate adequate injectivity and storage capacity of the saline formation target(s) and the sealing capacity of the confining layer(s), and 3) demonstrate the project's capability and approach to sequestration and, if proposed, beneficial use of CO₂.
- Quality and assurance of the rights to access and use the proposed Demonstration Unit site, sequestration site (sequestration field), existing utilities and rights of way.
- Likelihood for the sale or beneficial use of electricity and products (including excess CO₂, sulfur products, slag).

Criterion 4: EHSS ASPECTS (15%)

- Completeness of the assessment of environmental, health, safety, and security impacts, risks and other issues associated with the proposed Demonstration Unit and the proposed carbon sequestration option(s).
- Potential for adverse environmental impacts and safety concerns associated with project construction and operations and opportunities for mitigation.
- Identification of, and strategy to secure, all necessary permits required for demonstration at the proposed site(s), and likelihood for success in the permitting processes.
- Likely nature and quantity of public opposition to the proposed project.
- Likely mitigation requirements by DOE (or other governmental organizations).

Criterion 5: PROJECT ORGANIZATION AND PROJECT MANAGEMENT PLAN (20%)

- Completeness of the proposed Project Team and its ability to successfully provide the skills and resources needed to implement the proposed project. Degree of Project Team member commitment to the project as evidenced by commitment letters or signed agreements among team members.
- Knowledge, experience, qualifications, and degree of involvement of key personnel for the successful performance of the proposed project.
- Clarity and logic of the proposed organizational structure with respect to responsibilities and authorities among elements of the project team.
- Reasonableness and appropriateness of the proposed schedule for completion of the design, permitting, construction, operation and monitoring phases of the project.
- Adequacy of corporate background and experience to support successful performance, including design, permitting, construction, operation and monitoring of the proposed project as evidenced by corporate history of successful completion of projects of similar scope and complexity.
- Soundness and completeness of the Project Management Plan for successfully implementing the proposed project and achieving the objectives of the Announcement.
- Completeness of the identification of potential risk elements, quality and adequacy of the approach to assessing and managing risk, conformance of risk management approach with industry standards, adequacy of the approaches to risk mitigation.

2.2. Financial Evaluation Criteria

An evaluation will determine the responsiveness of the application to the financial requirements of this Announcement and will determine the merits of the application with regard to the (1) potential for the Applicant to meet the funding requirements of this Announcement, and (2) the potential for the application to successfully implement the Financial Business Plan. Applications submitted in response to this Announcement will be evaluated and numerically scored against the Financial Evaluation Criteria listed below.

Criterion 1: Funding Plan (60%)

- Adequacy, completeness and viability of the proposed Funding Plan.
- Financial condition and capacity of proposed funding sources to provide their portion of project costs, including development costs. Degree of financial commitment to the project evidenced by the certainty of the Applicant's funding commitments, Applicant's proposed level of private sector cost sharing, and the Applicant's commitment to fund all cost growth and overruns.

Criterion 2: Financial Business Plan (40%)

- Reasonableness and completeness of Financial Business Plan demonstrating the potential for the Applicant to successfully implement the project.
- Completeness of financial information and consistency with the funding and financial business plans.
- Viability of financial projections and financial model.

3. Budget Information and Financial Management System Evaluation Criteria

The budget and financial management system evaluation is not point scored. The evaluation will be conducted to determine the following:

- Reasonableness, allowability, and allocation of the proposed cost and the proposed cost share.
- Completeness and adequacy of the supporting documentation for the cost estimate, including assumptions and the basis of estimate.
- Statement of Project Objectives and proposed budget are provided in the same format as the Work Breakdown Structure. .
- Adequacy of the Applicant's Financial Management System.

4. Evaluation of Environmental Questionnaire

The Environmental Questionnaire will not be point scored. Together with other environmental information provided by the Applicant or that DOE develops, the Questionnaire will be used to assist DOE in fulfilling requirements for compliance with NEPA regulations at 10 CFR Part 1021.216. Additionally, DOE uses the Questionnaire for making a preliminary assessment regarding the level of documentation necessary to comply with NEPA. DOE preliminarily anticipates that an environmental impact statement will be required for each award under this funding opportunity.

The Environmental Questionnaire(s) will be used to: (1) assess the potential impacts of the proposed project and the potential liability to DOE; and (2) prepare a comparative evaluation of the potential environmental impacts of Applicant proposals, including an environmental critique of the qualified applications (which DOE will consider when selecting projects for award) and a publicly available synopsis per 10 CFR 1021.216. Data and analyses submitted should be those that are reasonably available to the Applicants. DOE will independently evaluate and verify the accuracy of the environmental data and analyses submitted. DOE may also evaluate supplemental information developed by DOE as necessary for an informed decision.

5. Other Selection Factors.

In addition to the results of the comprehensive evaluation, the factors listed below, while not indicators of the Applicant's merit, e.g., technical excellence, cost, Applicant's ability, etc., may be essential to the process of selecting the application(s) that, individually or collectively, will best achieve the objectives of the Restructured FutureGen program. 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 and technologies that maximize the probability of achieving DOE's overall objectives. Therefore, the following Program Policy Factors may be used individually or collectively by the Source Selection Authority (SSA) following application of the evaluation criteria to determine which application(s) shall receive DOE funding.

- Allowing DOE to have a portfolio of projects that effectively represent a diversity of gasification (or alternative) technology(ies).
- Desirability of selecting projects that collectively utilize the range of U.S. coals.
- Desirability of selecting projects in locations that represent a diversity of geographic, climatic and geologic conditions.
- Desirability of selecting projects, based upon availability of funding, that best achieve program objectives.

B. REVIEW AND SELECTION PROCESS.

1. Merit Review.

Applications that pass the Initial Review will be subjected to a Merit Review in accordance with DOE procedures.

2. Selection.

Selection, at a minimum, is based on the results of the merit review, program policy factors, and available funding.

DOE anticipates negotiations leading to award agreements with those Applicants whose applications are determined to be in the best interest of DOE for achieving the Restructured FutureGen objectives set forth in this Announcement. Selection of an application by DOE will result from a process of evaluating the merits of the Applicant's complete application, in accordance with all of the evaluation factors set forth in this section, and applying the Other Selection Factors noted in Part V.A.5.

The process reflects DOE's desire to accept an application based on its potential for best achieving Restructured FutureGen objectives rather than solely on evaluated technical merit or cost. Accordingly, DOE may select for award all applications, no applications, or any number or parts of applications based on DOE's decision as to which meritorious applications best achieve the Restructured FutureGen objectives set forth in this Announcement. DOE may select a mix of applications to optimize DOE's use of funds to achieve the program objectives.

Applicants should note that selection for negotiation will be made entirely on the basis of applications submitted. Applications should, therefore, address specifically the factors mentioned in the evaluation criteria and not rely on the assumed background knowledge of reviewers.

3. Discussions and Award.

The Government may enter into discussions with a selected Applicant for any reason deemed necessary, including but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the Applicant.

DOE anticipates the negotiation period for award to last approximately one year. Failure by the Applicant to provide information in a timely manner will seriously delay award of a Cooperative Agreement or TIA and may result in deselection by DOE.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES.

DOE anticipates notifying Applicants selected for award in late December 2008 and making awards by late December 2009. A financial assistance agreement may be executed before the Department issues a Record of Decision on whether to fully fund the project, following the Department's review of the potential environmental impacts and various programmatic concerns. In this case, the financial assistance agreement would make funding for detailed design, construction, operations, etc., (i.e., those steps that come after the preliminary planning and project definition phases) contingent on DOE issuing a favorable Record of Decision and on other programmatic decision points, as specified in the agreement.

Part VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES.

1. Notice of Selection.

DOE will notify Applicants selected for negotiation of a Cooperative Agreement or TIA. This notice of selection is not an authorization to begin performance (See Part IV.G with respect to the allowability of pre-award costs.) Organizations whose applications have not been selected will be advised as promptly as possible.

2. Notice of Award.

A "Notice of Financial Assistance Award issued by the Contracting Officer. It normally includes, either as an attachment or by reference: 1. Special Terms and Conditions; 2. Applicable program regulations, if any; 3. Application as approved by DOE; 4. DOE assistance regulations at 10 CFR part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; 5. National Policy Assurances To Be Incorporated As Award Terms; 6. Budget Summary; and 7. Federal Assistance Reporting Checklist, which identifies the reporting requirements.

If a Technology Investment Agreement is utilized, the agreement will be structured in accordance with 10 CFR part 603.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS.

1. Administrative Requirements.

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: <http://ecfr.gpoaccess.gov>), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at http://www.nsf.gov/awards/managing/fed_dem_part.jsp.

2. Special Terms and Conditions and National Policy Requirements.

Special Terms and Conditions and National Policy Requirements.

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreement or TIAs are located at http://management.energy.gov/business_doe/business_forms.htm.

The National Policy Assurances To Be Incorporated As Award Terms are located at http://management.energy.gov/business_doe/business_forms.htm.

Intellectual Property Provisions.

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/financial_assistance_awards.htm.

Statement of Substantial Involvement.

There will be substantial involvement between the DOE and the Recipient during performance of the Cooperative Agreement or TIA. The DOE and Recipient will collaborate and share responsibility for the management of the project as further described in this section. The parties' responsibilities will be

determined through negotiation based on the specific applications; these examples discussed below are not exhaustive.

RECIPIENT RESPONSIBILITIES:

The Recipient shall be responsible for all aspects of project performance as set forth in the Cooperative Agreement or TIA and the Statement of Project Objectives contained therein. The Recipient Project Director shall serve as the Recipient's authorized representative for the technical elements of all work to be performed under the Cooperative Agreement or TIA. The Recipient Business Officer shall serve as the Recipient's authorized representative for administrative elements dealing with the Cooperative Agreement or TIA. Specific examples of Recipient responsibilities include:

- Performing the activities delineated in this Cooperative Agreement or TIA and associated Statement of Project Objectives in accordance with the Project Management Plan, including providing the required personnel, facilities, equipment, supplies and services.
- Managing and controlling project activities in accordance with established processes and procedures to ensure tasks and subtasks are completed within the schedule and budget constraints defined by the current Project Management Plan.
- Notifying the DOE Project Officer in a timely manner of issues that arise during the course of the project that jeopardize the technical, schedule and/or budget objectives.
- Implementing an approach to identify, analyze and respond to project risks that is commensurate with the complexity of the project.
- Defining and revising technical and managerial approaches and plans, (i.e. Test Plans) submitting the plans to DOE for review and concurrence, and incorporating DOE comments.
- Coordinating project activities with external organizations, including subcontractors, consultants and DOE M&O contractors (as applicable), to ensure effective integration of all work elements.
- Attending semiannual program review meetings and reporting project status.
- Submitting technical reports and incorporating DOE comments.
- Presenting the project results at appropriate technical conferences or meetings as directed by the DOE Project Officer and such other technology transfer activities as mutually agreed by the parties.
- Facilitating DOE inspection and/or evaluation of project work on the premises of the Recipient or a subcontractor, at all reasonable times and in a manner that will not unduly delay the work. The Recipient shall furnish and shall require subcontractors to furnish all reasonable facilities and assistance for the safe, efficient and convenient performance of these duties.
- Assisting DOE with completion of the NEPA compliance process in a timely manner by participating in the NEPA planning efforts, participating in the public participation activities under NEPA, providing project planning and design information and analyses to support environmental impact evaluations, and assisting in gathering information for inclusion in the Environmental Impact Statement, or other NEPA documents. After selection, DOE will advise

the Recipient whether an Environmental Information Volume will be required, or whether environmental information will be submitted in another form. DOE will require the Recipient to describe siting and technology alternatives they considered and the process they used to select alternatives that were made a part of their application. DOE will also need a brief statement explaining why non-included alternatives were dismissed by the Recipient from inclusion in the application.

DOE RESPONSIBILITIES:

DOE shall monitor the Recipient's progress in performing the project and shall have a substantial role in project decision making. This involvement includes collaboration and management of the project. Specific examples of DOE responsibilities may include but is not limited to:

- Collaboration with Recipient on project plans to include project management, testing and technology transfer plans and making recommendation for alternate approaches if the plans do not address critical programmatic issues.
- Concurrence with Test Plans, including Recipient-selected test sites. At its discretion, the DOE may choose alternate test sites or conduct additional testing at NETL.
- Collaborating with Recipient regarding technical progress and recommending alternate approaches or shifting work emphasis, if needed, to adequately address critical project and/or programmatic issues. The DOE Project Officer shall have the authority to issue written technical advice recommending shift in the emphasis among different tasks or directing specific lines of inquiry likely to assist in accomplishing the Statement of Project Objectives. Note: The DOE Project Officer is not authorized to issue, and the Recipient is not required to follow, any technical advice that constitutes work which is not within the scope of the Statement of Project Objectives; which in any manner causes an increase or decrease in the total estimated cost or in the time required for performance of the project; which has the effect of changing any of the terms or conditions of the Cooperative Agreement or TIA; or which interferes with the Recipient's right to perform the project in accordance with the terms and conditions of the Cooperative Agreement or TIA.
- Conducting semiannual program review meetings to evaluate progress with respect to project and program objectives.
- Participating in project management planning activities, including risk analysis, to ensure DOE's program requirements or limitations are considered in performance of the work elements.
- Promoting and facilitating technology transfer activities, including disseminating project results through presentations and publications.
- Serving as scientific/technical liaison between awardees and other program or industry staff.
- At the DOE's discretion, physically inspecting and evaluating the work performed or being performed under the Cooperative Agreement or TIA, including associated documentation, and the premises where the work is being performed.
- Review and approval of one stage before work can begin on a subsequent stage. Such review and approval is in addition to the exercise of the normal Federal stewardship responsibility to determine whether to continue funding beyond Phase I.

- Substantial direct operational involvement or participation is anticipated to ensure compliance with statutory requirements such as environmental protection.
- Conducting and completing the project-related NEPA compliance.

C. REPORTING.

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2 and in the Deliverables section of the Statement of Project Objectives, attached to the award agreement. See model cooperative agreement, included as a separate attachment with this announcement, for the reporting requirements for this program.

PART VII - QUESTIONS/AGENCY CONTACT

A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the "Submit Question" feature of the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov>. Locate the program announcement on IIPS and then click on the "Submit Question" button. Enter required information. You will receive an electronic notification that your question has been answered. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE cannot answer these questions.

B. AGENCY CONTACT

Name: Brittley Robbins
E-mail address: brittley.robbs@netl.doe.gov
Fax: N/A
Telephone: (412) 386-5430

PART VIII - OTHER INFORMATION

A. MODIFICATIONS.

Notices of any modifications to this announcement will be posted on Grants.gov and the DOE Industry Interactive Procurement System (IIPS). You can receive an e-mail when a modification or an announcement message is posted by joining the mailing list for this announcement through the link in IIPS. When you download the application at Grants.gov, you can also register to receive notifications of changes through Grants.gov.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE.

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS.

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION.

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the Applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the Applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“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 herein 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.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of Applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL.

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The Applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM.

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below). Third party licensing of background patents will not normally be required, except as may be specifically negotiated in a particular agreement to insure the commercialization of technology developed under a DOE agreement.

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to insure the commercialization of technology developed under a DOE agreement.

Special Protected Data Statutes. Applicable provisions of EAct 2005 allow for protection from public disclosure (including exemptions from subchapter II of chapter 5 of title 5, United States Code) for a period not exceeding 5 years after development of information that: (1) results from demonstration activities carried out under the Restructured FutureGen program; and (2) would be a trade secret or commercial or financial information that is privileged or confidential if the information had been obtained from and first produced by a non-Federal party participating in a Restructured FutureGen project.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER.

Applicants may 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 an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award 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 award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784. Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 10 CFR 600.325, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver. In view of substantial cost-share requirements, DOE may consider issuing a class patent waiver for large business awardees under this program.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES.

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.

I. PROPERTY MANAGEMENT AND DISPOSITION.

The use, management, and disposition of all acquired property shall be governed by 10 CFR 600.130 thru 600.137 and 600.320 thru 600.325, and 600.603.

J. NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE

The National Environmental Policy Act of 1969 (NEPA) establishes a national policy to ensure that consideration is given to environmental values and factors in Federal planning and decision making. DOE's policy is to comply fully with the letter and spirit of NEPA. To ensure that environmental factors are considered in the decision making process and to promote environmentally responsible decisions, DOE incorporates NEPA requirements early in the planning process for proposed actions. Consistent with Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500-1508) and DOE NEPA regulations (10 CFR Part 1021), an overall strategy for compliance with NEPA has been developed. This includes performing a comparative environmental evaluation under 10 CFR 1021.216 of environmental issues pertinent to each proposed project before projects are selected, followed by site-specific environmental reviews under NEPA of each project after DOE selection and prior to a go/no-go decision on the project.

Recipient is restricted from taking any action using Federal funds which would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to DOE providing either a NEPA clearance or a final NEPA decision regarding this project. Prohibited actions include, but are not limited to, demolition of existing buildings, site clearing, ground breaking, construction, and/or detailed design. This restriction also prohibits the purchasing of any long lead-time equipment until the Record of Decision (ROD) is issued. However, activities necessary to perform site characterization may be performed before the NEPA clearance or decision is completed.

Prior to the completion and issuance of the ROD, DOE agrees to discuss with the Recipient any proposed conditions and requirements that may be included in the ROD if DOE approves the proposed action. However, DOE retains sole discretion on whether to include in the ROD any conditions and requirements.

If DOE approves the proposed action subject to conditions, limitations, mitigation requirements, and/or monitoring requirements specified in the ROD, the Recipient agrees to:

- a) abide by the conditions, limitations, mitigation requirements, and/or monitoring requirements specified in the ROD;
- b) negotiate changes to the project schedule, costs, and/or scope as necessary to effect the requirements or conditions in the ROD;
- c) allow DOE's authorized representatives the right to visit the site and facilities at reasonable times and upon reasonable notice to verify compliance with any conditions and requirements in the ROD;
- d) and submit data or otherwise meet specified reporting requirements that may be in the ROD.

If the Recipient finds the conditions and requirements to be unacceptable, the Recipient reserves the right to terminate the award in accordance with 10 CFR 600.161(a)(3), 244(b), 351(a)(3), as applicable.

K. INSURANCE

DOE reserves the right to review and approve a selected Applicant's insurance coverages for the project and be named as a third party-insured on Applicant's policies.

APPENDICES/REFERENCE MATERIAL

ANNOUNCEMENT DEFINITIONS:

"Advancement" refers to technological improvements relative to commercial technology or previously demonstrated technology, which may include, but is not necessarily limited to:

- Addressing unique issues associated with integration of capture technologies with coal-fueled systems or sequestration demonstrations
- Improvements in cost or energy requirements of capture technologies
- Improvements to EOR resulting in increased long term retention of carbon dioxide

"Award" means the written document executed by a DOE Contracting Officer, after an application is approved, which contains the terms and conditions for providing financial assistance to the recipient.

"Beneficial Use" means the production of a useful product as the result of sequestering carbon dioxide in such a way that it will not end up in the atmosphere, which includes, but is not limited to enhanced oil recovery and enhanced coal-bed methane recovery.

"Budget Period" means the interval of time, specified in the award, into which a project is divided for budgeting and funding purposes.

"Capture Efficiency" means the amount of carbon dioxide removed from the process stream expressed as a percentage of the amount of carbon dioxide entering the carbon capture system.

"Commercial Technology" means technology that is commercially available to the utility industry. To be considered commercially available to the utility industry it must meet the following criteria:

- The technology has been fully demonstrated at the scale typical of use by the utility industry
- The technology has demonstrated on line reliability required by the utility industry
- The technology is provided with commercial guarantees with regard to process cost, performance, and availability
- The cost of the technology can be accurately estimated.

"Demonstration Facility" means the physical plant, equipment, and all other related facilities constructed and operated during the Demonstration Project.

"Demonstration Project" or "Project" means the complete set of activities described in the Statement of Project Objectives of any resulting Cooperative Agreement or TIA for the technology demonstration, including integrated testing, 3-5 years of DOE cost-shared operations of the Demonstration Unit, and 2 years of continued MMV activities immediately following the DOE cost-shared operations of the Demonstration Unit.

"Demonstration Project Operations" means the DOE-sponsored period of demonstration unit operations (3 – 5 years).

“Demonstration Unit” means a single IGCC (or alternative technology) power train coupled with CCS that meets the “PRIMARY TECHNICAL GOALS AND FUNCTIONAL PERFORMANCE REQUIREMENTS “ prescribed in Part I, Section D. For IGCC, a single power train means 1 or more gasifiers supplying syngas (from which at least 81% of the CO₂ is removed) to a combined-cycle power plant, in which the combustion turbine is rated at 200 MW or more. For non-IGCC, a single power train is a commercially sized facility.

“Earned Value Management” means the methodology that allows interested parties, including the government and performers, the visibility into cost, schedule, and technical progress of the work to be completed to measure and manage performance.

“Earned Value Management System” means the integrated set of processes, which implements ANSI/EIA 748, which are the industry guidelines to establish the framework within which an adequate integrated cost, schedule, and technical performance management system, will be effective.

“Electricity” means gross electricity produced by the project. Any electricity produced by the project that is also consumed by the project shall be considered to be electrical output.

“Energy Output” means 1) in the case of a boiler, the energy content of the steam produced by the boiler and 2) in the case of a gasification system, the total energy output consists of the energy content of the syngas stream plus the energy content of the steam.

“Host Site or Site” means the general location, either within the property boundary of an identified electric power generating or other facility or on a parcel of land with clearly identified ownership and generally defined boundaries, where the demonstration facility will be operated.

“Phase” means the set of related tasks which taken together make up a major category of work under the Demonstration Project (e.g., Permitting, Design, Construction, or Demonstration Operations, Monitoring, Measurement, Verification).

“Project” means the “Demonstration Project” defined above.

“Project Management Plan” means a detailed plan that expands on the application to provide technical, cost, and schedule baselines at lower levels of the Work Breakdown Structure for the Project and that includes management controls and procedures for implementing the Project.

“Project Team” means those organizations or parties responsible for proposing and accomplishing all phases of the Demonstration Project. The Project Team includes the prospective Recipient, technology owners, and other third parties identified in the application (excluding parties whose sole function is as a source of funds or as an existing commercial user of products typical of those to be produced by the Demonstration Project) who are essential to the successful completion of the proposed Demonstration Project. Where a legal entity has been or will be created to conduct the project, DOE will consider the participating organizations or parties (partners, joint venture members, etc.) as Project Team members.

“Recipient” means the legal entity that is responsible for all aspects of Project performance under the Cooperative Agreement or TIA.

“Schedule Baseline” means the schedule will be of sufficient detail to allow cost estimating.

“Selection” means the determination by DOE for certain proposed Demonstration Projects to proceed into negotiations that may lead to an Award.

“Technology Baseline” means all decisions about flowsheets, major equipment types, equipment placement, and demonstration configuration will be made.

“United States” means The United States of America and its 50 states, the District of Columbia, the Commonwealth of Puerto Rico, and any possession or trust territory of the United States.

ATTACHMENTS (see separate files)

| | |
|--------------------------------|---|
| Model Cooperative Agreement** | [<i>Model Cooperative Agreement.pdf</i>] |
| Budget Justification Guideline | [<i>Budget Justification Guideline.xls</i>] |
| Project Worksheets | [<i>Worksheets.doc</i>] |
| Environmental Questionnaire | [<i>Environmental Questionnaire.doc</i>] |

** This Model Cooperative Agreement is being provided only for illustrative purposes. The specific terms and conditions of the final Agreement may vary depending on the specific application.