



Clean Coal Power Initiative Round 3

Webcast, November 20, 2008

CCPI-3 Webcast

- **Purpose**
 - Answer any remaining questions regarding the CCPI-3 Funding Opportunity Announcement (FOA)
- **CCPI-3 Status**
 - FOA issued August 11, 2008
 - Amendment 3 issued November 19, 2008 is current
 - Applications due January 15, 2009
- **Agenda**
 - 1:00 PM (EST) Summary of Funding Opportunity Announcement
 - 1:45 PM (EST) Questions from the Public

Meeting Process

- **Webcast Rules of Etiquette**
 - Please put all phones on mute during the presentation so everyone can hear
 - Please state your name and affiliation before asking your question
 - This is not an opportunity to “sell” your concept to DOE, please keep questions concise
- **You may email CCPI.Questions@netl.doe.gov to submit questions in written form or you may ask your question over the phone**
- **If you still have a question following the webcast, please submit it to IIPS**
 - <https://e-center.doe.gov/iips/faopor.nsf/UNID/381D0BFF0BCDDEFD852572E60065938E?OpenDocument>

Outline

- **Part I – Funding Opportunity Announcement (FOA) Description**
- **Part II – Award Information**
- **Part III – Eligibility Information**
- **Part IV – Application and Submission**
- **Part V – Application Review Information**
- **Part VI – Award Administration**
- **Part VII – Questions/Agency Contacts**
- **Part VIII – Other Information**
- **Summary**

Part I – FOA Description

Introduction

- **Cost shared collaboration between industry and government**
- **CCPI Program Goal: Accelerate readiness of advanced coal-based technologies for commercial deployment**
- **Specific Objective: Demonstrate advanced coal-based technologies that capture and sequester, or put to beneficial reuse, carbon dioxide emissions**



Part I – FOA Description

Introduction (cont.)

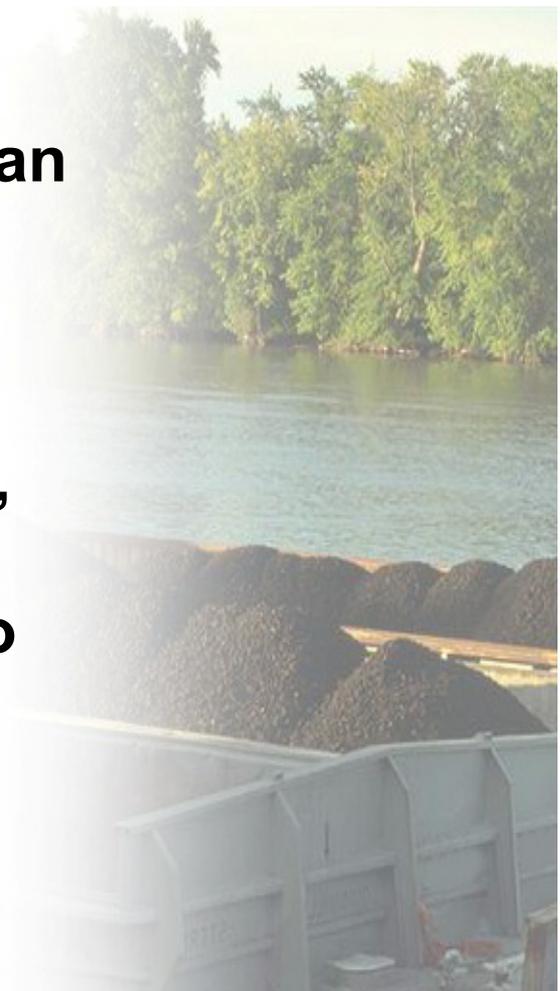
- **DOE is interested in allowing CCPI Demonstration Projects to integrate with Regional Partnership Phase III Testing**
- **Governed by Energy Policy Act of 2005**
- **Emissions and Efficiency targets and milestones established by DOE Report to Congress**



Part I – FOA Description

Objectives

- **Seeking advanced coal-based technologies that have progressed beyond R&D. Once demonstrated, can be easily replicated into commercial practice**
- **Targeting advanced coal-based systems that capture and sequester, or put to beneficial reuse, carbon dioxide emissions – with potential to achieve EPACT 2005 performance levels**



Part I – FOA Description

Objectives (cont.)

- **DOE's goals are to demonstrate technologies**
 - That operate at 90% capture efficiency
 - Capture efficiency means the amount of carbon dioxide removed from the process stream expressed as a percentage of the carbon dioxide entering the capture systems
 - Make progress toward COE increase less than
 - 10% for gasification systems
 - 35% for combustion and oxycombustion systems
 - Capture and sequester or put to beneficial reuse 300,000 tons per year of carbon dioxide
 - Make progress toward capture of 50% of plant output

Part I – FOA Description

Objectives (cont.)

- **Projects must be integrated with commercial plant operation; 30 day running average will determine if the carbon dioxide capture efficiency goal is met**
- **Projects may produce heat, fuels, chemicals, hydrogen, etc, in combination with electricity**
- **U.S. coal or coal refuse must be 75% of plant input**
- **50% of boiler or gasifier output must be used to make electricity**
 - Parasitic electric power counts as electrical output
 - Boiler output is the energy content of steam
 - Gasifier output is the energy content of the steam plus the energy content of the syngas stream
- **All project activities must be in U.S.**



Part I – FOA Description

Objectives (cont.)

- **DOE WILL demonstrate**
 - leading edge technologies not currently deployed in the utility industry
- **DOE will NOT demonstrate**
 - new applications of commercial technology
 - marginal improvements of commercial technology or previously demonstrated technology
- **“Commercial Technology” means commercially available to the utility industry as defined by:**
 - Fully demonstrated at utility scale
 - Demonstrated reliability required by utility industry
 - Widely available to the utility industry with commercial guarantees regarding cost, performance, availability
 - Cost can be accurately estimated

Part I – FOA Description

Technology Areas

- **Applications sought that focus on capture and storage of CO₂ emissions**
- **Priority is to capture CO₂ stream from a large, stationary source and sequester it in an underground geologic formation or put it to beneficial reuse**

Part I – FOA Description

Technology Areas (cont.)

- **Carbon Capture**

- Pre-Combustion, systems for removal of CO₂ from synthesis gas streams
- Oxycombustion, combustion of coal with nearly pure oxygen with recycled flue gas, producing a stream of nearly pure CO₂
- Post Combustion, removal of CO₂ from flue gas produced by the combustion of coal. Commercial systems based on amines

Part I – FOA Description

Technology Areas (cont.)

- **Carbon Sequestration or Beneficial Reuse**
 - Enhanced Oil Recovery (EOR), injection of CO₂ in porous rock containing oil, currently a commercial practice
 - Saline Formations, injection into saline formations which exist at depth beneath much of the U.S.
 - Coal Seams, injection into deep underground coal seams, where CO₂ adsorbs onto coal
 - Basalt Formations, solidified lava, that can in theory convert injected CO₂ into mineral matter
 - Stacked Storage, multiple strata at various depths

Part I – FOA Description

Technology Areas (cont.)

- **Carbon Sequestration or Beneficial Reuse (cont.)**
 - Beneficial Reuse
 - Production of a useful product as the result of sequestering carbon dioxide, including but not limited to EOR and ECBM
 - Production of useful energy products from captured carbon dioxide, including but not limited to production of biodiesel from algae produced from captured carbon dioxide

Part II – Award Information

- **Type of Award**
 - Cooperative Agreement
 - Model Cooperative Agreement attached to FOA
- **Estimated Funding**
 - Up to \$440 million may be available
 - No maximum or minimum award size
 - Multiple awards anticipated
- **Allocation of Funds (Energy Policy Act of 2005)**
 - At least 70% of funds for gasification technologies
 - Up to 30% of funds of for project other than those described above

Part II – Award Information (cont.)

- **Period of Performance**

- Commensurate with scope and complexity of project
- Applicants may propose a Project Definition Phase
 - Completion of Technology, Cost, and Schedule Baseline; Financing; and NEPA
- DOE shall establish a reasonable period to complete construction or demonstration
- Recipient shall agree not to request an extension for such period
- The Secretary of Energy may grant an extension at his/her discretion, which shall not be longer than 4 years
 - Reference EPACT Title IV, Subtitle A, Section 402(f)

Part III – Eligibility Information

- **Eligible Applicants**

- All types of entities are eligible to apply, except other Federal Agencies, FFRDC Contractors and certain non-profits (engaged in lobbying)

- **Recipient Cost Sharing**

- Must be at least 50% of total project costs, 50% of each budget period, on a dollar-for-dollar, as expended, basis



Part III – Eligibility Information (cont.)

- **Commitment of Funds**

- For projects without a Project Definition Phase
 - Funds for entire project must be committed at award
- For projects with a Project Definition Phase (PDP)
 - Funds for PDP must be committed at award
 - Funds for the remainder of project must be committed at end of PDP



Part III – Eligibility Information (cont.)

- **Project Specific Development Activities**
 - Development tasks undertaken at existing facilities
 - Maximum value is 10% of DOE funding
 - If DOE share of total project cost is \$10 million, then \$ 1 million of PSDA costs are allowed, DOE would share the \$1 million at the established cost share ratio
- **Cost Overruns**
 - DOE is not obligated to share in overruns, but may do so if funds are available
 - No funds set aside for overruns
 - Limited to 25% of original government contribution

Part III – Eligibility Information (cont.)

- **Recovery of Government's Interest (Repayment)**
 - Not Required

Part III – Eligibility Information

Mandatory Eligibility Requirements (1)

- **50% of energy output must be electricity**
- **All project activities in the U.S.**
- **Must use 75% coal (or waste coal) mined in U.S.**
- **At least 300,000 tpy of CO₂ emissions must be captured and sequestered (or reused)**
- **Applicant must cost share 50% of total project and each budget period**
- **Applicant must identify proposed site and any alternative sites**

Part III – Eligibility Information

Mandatory Eligibility Requirements (2)

- **Applicant must identify all project team members and their roles**
- **Application must be submitted by a responsible official**
- **Application must be consistent with the objectives of the Announcement**
- **Application must contain sufficient technical, cost, management, financial, budget, and commercialization information to allow a comprehensive evaluation**
- **Application must contain a proposed schedule for completion of the construction and demonstration phases of the project**

Part IV – Application and Submission *Information*

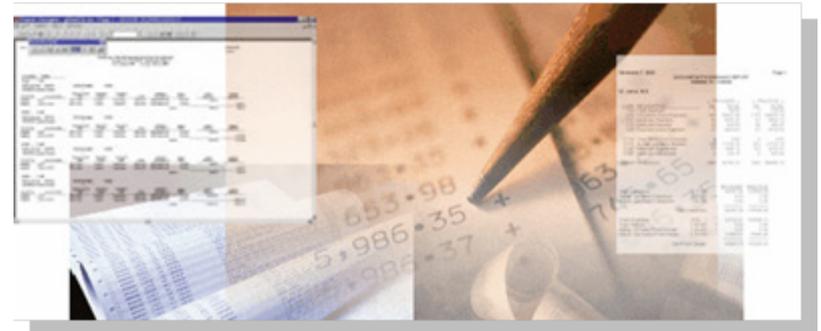
- **Content and Form of Application**
 - SF424
 - Project Narrative File, Sections 1-8
 - Appendices A-G
 - Project Summary/Abstract File
 - Resume File
 - SF424A – Budget Information
 - Budget Justification and Sub-award Budget Files
 - NNSA and FFRDC Contractor Files, if necessary
 - Environmental Questionnaire (s)
 - Financial Management System
 - SF-LLL Disclosure of Lobbying Activities, if applicable



Part IV – Application and Submission

Project Narrative File

- **1. Contents and Definitions**
- **2. Summary and Introduction**
- **3. Technology Merit, Technical Plan, and Site Suitability**
 - Description of proposed concept and technology, technical plan for achieve project goals
 - Assessment of project risk, approach to managing risk



Part IV – Application and Submission

Project Narrative File (cont.)

- **3. Technology Merit, Technical Plan, and Site Suitability (cont.)**
 - Information demonstrating ability to achieve Objectives
 - Data supporting carbon capture efficiency, ability to achieve 90% carbon dioxide capture efficiency
 - Data supporting the technology can be scaled to capture 50% of plant carbon dioxide output
 - Data supporting impact on COE, ability to achieve COE increase less than 10% for gasification, or 35% for combustion/oxy-combustion now or following development
 - Information supporting ability of project to achieve capture efficiency and capture rate as a 30 day running average

Part IV – Application and Submission

Project Narrative File (cont.)

- **3. Technology Merit, Technical Plan, and Site Suitability (cont.)**
 - Approach to sequestration, identifying purchaser of CO₂, or other method demonstrating sequestration or reuse
 - Advances of proposed technology over commercial
 - Readiness of technology for demonstration at the proposed scale
 - Description of baseline testing, project testing, and performance monitoring
 - Merit of the proposed project for demonstrating the commercial viability of the proposed technology

Part IV – Application and Submission

Project Narrative File (cont.)

- **3. Technology Merit, Technical Plan, and Site Suitability (cont.)**
 - Evidence site is available to the applicant
 - Information on integration of key physical or logistical elements
 - Project schedule
 - Description of proposed site and any alternatives
 - Infrastructure, environmental setting
 - Maps, documentation, etc in Appendix A

Part IV – Application and Submission

Project Narrative File (cont.)

- **4. Project Organization and Project Management Plan**
 - Project team information, identifying all skills and resources necessary to complete project
 - Signed agreements or letters committing team members in Appendix B
 - Prior corporate experience, corporate history of successful completion of similar projects
 - Knowledge, experience of Key Personnel, in Resume File “bio.pdf”
 - Organizational structure, responsibilities and authorities

Part IV – Application and Submission

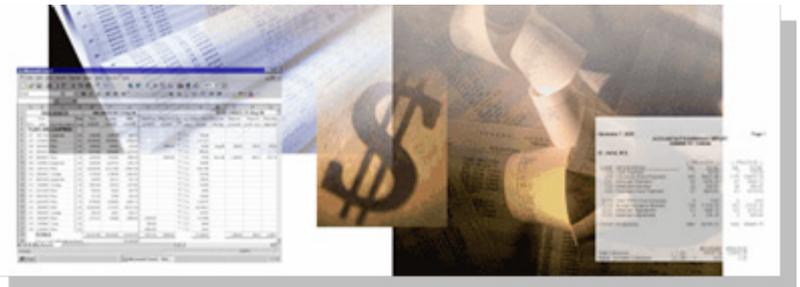
Project Narrative File (cont.)

- **4. Project Organization and Project Management Plan (cont.)**
 - Project Management Plan
 - WBS to three levels
 - Statement of Project Objectives, description of work to be performed
 - Project schedule
 - Baseline Cost Plan
 - Project management system for monitoring and control of cost, scope, and schedule
 - Project Communication Protocol
 - Risk Management Plan
 - Environmental Management Plan

Part IV – Application and Submission

Project Narrative File (cont.)

- **5. Commercialization Potential**
 - Commercialization plan – approach to achieving full commercialization
 - Evidence that a demonstration would provide for commercial replication



Part IV – Application and Submission

Project Narrative File (cont.)

- **6. Funding Plan**

- Applicant must have a plan for obtaining funding for the non-DOE Share of project cost, including all sources of project funds

- **7. Financial Business Plan**

- Project parties, Assumptions, Financial Projections, Limited Recourse Project Financing, Contracts & Agreements, Financial Commitments, Contract Bonding Practices

Part IV – Application and Submission

Appendices to Project Narrative

- **A. Site Documentation**
- **B. Team Letters of Commitment and Agreements**
- **C. Project Management Plan**
- **D. Statements from Potential Buyers**
- **E. Financial Statements**
- **F. Financial Model of Project**
- **G. Financial Commitment Letters**

Part IV – Application and Submission

Other Attachments

- **Project Summary / Abstract File – “summary.pdf”**
- **Resume File – “bio.pdf”**
- **SF 424 A Excel Budget Information – “sf424a.xls”**
- **Budget Justification File – “budget.pdf”**
 - Examples given in “Budget Justification Guidelines.xls”
- **Subaward Budget Files – “subname.xls”**

Part IV – Application and Submission

Other Attachments (cont.)

- **FFRDC and M&O Contractors**
- **NNSA FFRDC Contractor**
- **Environmental Questionnaire – “envques.pdf”**
- **Financial Management System – “fin mgmt.pdf”**
 - Financial management system must meet 7 criteria found in 10CFR600.121(b) and .311(a)
- **SF-LLL Disclosure of Lobbying Activities**

Part IV – Application and Submission

Submissions from Successful Applicants

- **DOE will request information and enter into negotiations regarding the final content and format of information**
 - Environmental Information Volume
 - Fully detailed and properly formatted cost estimate
 - Audit data from Defense Contract Audit Agency (DCAA)
 - Updated financial information
 - Intellectual property information: limited, unlimited rights data; restricted computer software; protected data

Part IV – Application and Submission

Submissions from Successful Applicants (cont.)

- **DOE will request information and enter into negotiations regarding the final content and format of information (cont.)**
 - Fully executed host site agreement and site information
 - Updated Commercialization Plan
 - Updated Risk Management Plan
 - Major subcontracts for DOE review to ensure consistency with regulations and policy



CCPI 3 Schedule

October 3, 2007	Draft FOA Issued
November 1, 2007	Public Workshop
November 23, 2007	Public Comment Period Closed
August 11, 2008	Final FOA, Comments, and Responses Posted
November 19, 2008	Amendment 3 Issued
January 15, 2009	Applications due
July 2009	Selections Announced
July 2010	Target Award Date

Part V – Application Review Information

Initial Review

- **Applicant meets all Eligibility Requirements in Part III**
- **All information required by the Announcement has been submitted**
- **All mandatory requirements have been satisfied**
- **The proposed project is responsive to the objectives of the FOA**



Part V – Application Review Information

Merit Review

- **Correspond to requirements defined in Project Narrative Format**
- **Technical Evaluation Criteria**
 - Technical Merit, Technical Plan, and Site Suitability
 - Project Organization and Project Management Plan
 - Commercialization Potential
- **Financial Evaluation Criteria**
 - Funding Plan
 - Financial Business Plan
- **Criteria are weighted**
- **Technical is more important than Financial**



Part V – Application Review Information

Budget Evaluation

- **Reasonableness, allowability, and allocation of the proposed cost and cost share**
- **Completeness and adequacy of supporting documentation for the cost estimate**
- **Statement of Project Objectives and proposed budget are provided in the same format by phase, task, etc**
- **Adequacy of the Applicant's Financial Management System**
- **Correspondence between the SOPO and the budget and the adequacy of the associated documentation**
- **Correspondence between the budget estimate and magnitude to work proposed**

Part V – Application Review Information

Environmental Evaluation

- **Environmental Questionnaire will be evaluated to:**
 - Determine the adequacy and completeness of the information submitted
 - Assess the Applicant’s awareness of requirements, including requirements for mitigating any project-related environmental risks and impacts
 - Applicant’s ability to meet compliance requirements and approach to identification and resolution of issues
 - Assess potential impacts of the proposed work and their potential liabilities

Part V – Application Review Information

Other Selection Factors

- In addition to the Merit Review, other factors may be considered when making selections
- Budget Evaluation
- Environmental Evaluation
- Program Policy Factors
 - Diverse portfolio of projects in DOE's program
 - Diversity of coals
 - Applicability of technologies to a wide variety of coals
 - Geographic distribution of potential markets
 - Unique environmental, economic, or efficiency benefits
 - Mix of project that best achieves CCPI 3 objectives
 - Best value to the Government, Federal cost shares commensurate with technological risk.



Part V – Application Review Information

Review and Selection Process

- **Selection**

- Projects in the best interest of DOE for achieving the objectives of this Announcement
- Process of Merit Review followed by applying Other Selection Factors
- May select all, none, any, or any number, or parts of applications
- Selection is based on what is submitted, do not rely on assumed background knowledge of reviewers

- **Discussions**

- DOE will enter into negotiations with selected Applicants, expected to last one year
- Failure to sign a Cooperative Agreement within two years, negotiations will be terminated

Part VI – Award Administration

- **Substantial Involvement**
 - DOE has a substantial involvement in the decision making process under the award. See the Model Cooperative Agreement for list of DOE and Recipient Responsibilities
- **Reporting**
 - Reporting is governed by the Federal Assistance Reporting Checklist and Statement of Project Objectives, which are shown in the Model Cooperative Agreement
 - Monthly Project Progress Reports are required

Part VIII – Other Information

- **Intellectual Property**

- Patent Rights, Government has certain rights to inventions conceived or first put to practice under a DOE award. Title to such inventions vest in the United States, except for nonprofits or small businesses.
- Recipient may request a waiver of rights of the United States in inventions
- DOE will negotiate limited rights data and restricted computer software
- Protected data, EPACT 2005 allows for certain data to be protected from public disclosure for a period of five years

Part VIII – Other Information (cont.)

- **Property Management**
 - Title to all property, equipment, and supplies shall vest with the Recipient
- **National Environmental Policy Act (NEPA)**
 - DOE must comply with NEPA, project specific reviews are required
 - NEPA ensures that consideration is given to environmental factors during planning and decision making

Summary

- **DOE is currently seeking to demonstrate technologies that capture and sequester, or put to beneficial reuse, carbon emissions from coal-fired power generation facilities**
- **Specific objectives and requirements are provided in the Funding Opportunity Announcement – Clean Coal Power Initiative Round 3**
- **DOE welcomes questions regarding the Funding Opportunity Announcement and Model Cooperative Agreement**



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