

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U. S. Department of Energy
National Energy Technology Laboratory**

Innovation for Increasing CyberSecurity for Energy Delivery Systems (I2CSEDS)

Funding Opportunity Number: DE-FOA-0000359

Announcement Type: Initial

CFDA Number: 81.122

Issue Date:	06/11/2010
Letter of Intent Due Date:	Not Applicable
Pre-Application Due Date:	Not Applicable
Application Due Date:	07/12/2010 at 3:00:00 PM Eastern Time

NOTE: REGISTRATION/SUBMISSION REQUIREMENTS**Registration Requirements**

There are several one-time actions you must complete in order to submit an application in response to this Announcement (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contractor Registration (CCR), and register with Grants.gov). 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.

Applicants must obtain a DUNS number. DUNS website: <http://fedgov.dnb.com/webform>.

Applicants must register with the CCR. CCR website: <http://www.ccr.gov/>

Applicants must register with Grants.gov. Grants.gov website: <http://grants.gov/>

Applicants must register with FedConnect to submit questions. FedConnect website: www.fedconnect.net

Questions

Questions relating to the **system requirements or how an application form works** must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

Questions regarding the **content** of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. 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.

Application Preparation and Submission

Applicants must download the application package, application forms and instructions, from Grants.gov. Grants.gov website: <http://www.grants.gov/>
(Additional instructions are provided in Section IV A of this FOA.)

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.

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).

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PART I - FUNDING OPPORTUNITY DESCRIPTION

A. SUMMARY

The Department of Energy's (DOE) National Energy Technology Laboratory (NETL) on behalf of the DOE, Office of Electricity Delivery and Energy Reliability (OE), is seeking applications that will lead to improvements in the cyber security of control systems and information technology systems (IT) for energy transmission and distribution, including electricity, oil, and natural gas, as well as protect the electric grid and enhance integration of smart grid technologies that are adequately protected against cyber attacks. This FOA includes seven (7) Topics Areas:

Topics Areas

Topic Area 1 – Response to Cyber Attack in Progress

Topic Area 2 – Centralized Cryptographic Key Management

Topic Area 3 – Situational Awareness Data Collection, Analyses, and Visualization

Topic Area 4 – Hardened Platforms and Systems

Topic Area 5 – Secure Communications

Topic Area 6 – Remote Access

Topic Area 7 – Secure Smart Grid Communication Architecture

B. BACKGROUND INFORMATION

In January 2006, the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability, in collaboration with the U.S. Department of Homeland Security's Science and Technology Directorate and the Energy Infrastructure Protection Division of Natural Resources Canada, facilitated the development of the Roadmap to Secure Control Systems in the Energy Sector. The Roadmap synthesizes expert input from the control systems community, including owners and operators, commercial vendors, national laboratories, industry associations, and government agencies, to outline a coherent plan for improving cyber security in the energy sector. The plan provided by the Roadmap presents a vision and supporting framework of goals and milestones for protecting control systems over the period of 2005-2015. Specifically the Roadmap's Vision for Securing Control Systems in the Energy Sector is: By 2015, control systems for critical applications will be designed, installed, operated, and maintained to survive an intentional cyber assault with no loss of critical function. This is a bold vision that confronts the formidable technical, business, and institutional challenges that lie ahead in protecting critical energy control systems against increasingly sophisticated cyber attacks.

This announcement focuses on providing technology development to support the CyberSecurity for Energy Delivery Systems Program (CSEDS) within the Research and Development (R&D) Division of the Office of Electricity Delivery and Energy Reliability (OE). The CSEDS program has established partnerships over the past several years with industry, government, national laboratories and universities to advance and secure the energy system technologies. The prevailing theme that has surfaced repeatedly is that critical energy infrastructures are vulnerable to cyber attack, with potential consequences including significant interruption of economic activity or, even, to

catastrophic loss of life. To take the necessary steps to remedy these vulnerabilities, the CSEDS program desires to develop tools and algorithms (herein referred to as technologies) to reduce the risk of energy disruptions due to cyber attacks on control systems. The increasing use of communications and control technology throughout the energy sector makes the energy transmission and distribution systems attractive targets to cyber attacks. As such, the applicant's proposed technologies should be able to be made available either commercially or open source (free).

C. FUNDING OPPORTUNITY OBJECTIVES

The objective of this FOA is to perform research, development, and demonstrations of technologies that will enhance the cyber security of communication and control systems of the U.S. energy infrastructure. This includes electricity generation, transmission, distribution as well as the production, refining, storage, and distribution of oil and gas in accordance with DOE's energy infrastructure role defined in Homeland Security Presidential Directive (HSPD) 7. This also includes tools to assist in the compliance with North American Electric Reliability Corporation-Critical Infrastructure Protection (NERC-CIP) requirements for cyber security. This research is expected to complement and enhance the development and implementation of key milestones and objectives called for in the Roadmap to Secure Control Systems in the Energy Sector (<http://www.oe.energy.gov/csroadmap.htm>). In a step toward attaining this vision, NETL requests applications that address one or more of the topic(s) outlined below. Solutions should be interoperable, scalable, cost-effective advanced technologies and processes that implement common methods and best practices and should include a strategy for commercializing/implementing the solutions throughout the energy sector.

D. TOPICS AREAS

This FOA includes seven (7) Topics Areas. **Only applications that specifically address Topics Areas described in the following section will be accepted under this announcement.**

Topics Areas

Topic Area 1 – Response to Cyber Attack in Progress

Topic Area 2 – Centralized Cryptographic Key Management

Topic Area 3 – Situational Awareness Data Collection, Analyses, and Visualization

Topic Area 4 – Hardened Platforms and Systems

Topic Area 5 – Secure Communications

Topic Area 6 – Remote Access

Topic Area 7 – Secure Smart Grid Communication Architecture

TOPIC AREA 1: RESPONSE TO CYBER-ATTACK IN PROGRESS

Develop and demonstrate technology that provides an appropriate response to an ongoing cyber-attack. Today's power systems have carefully planned and thoroughly evaluated responses to N-1 physical contingencies, such as the loss of a generator or transmission component, so that the power grid remains resilient and continues to operate in a degraded state when the function of a physical

component has been compromised. Many of these contingency responses are automated, some are manual. Similar response processes, organizational structures and supporting advanced technologies must be developed so that the power grid remains resilient and continues to operate in a degraded state when cyber components have been compromised. For some cyber-contingencies, an automated response would be appropriate, while in other cases an automated response could be very unsafe so that manual intervention is imperative. A graded risk-based security approach should be used to prioritize cyber components then to develop response plans to be implemented for the highest-risk cyber components should they be compromised by a natural disaster, adversary or by accidental human error. New research is needed to measure and identify the scope of a cyber attack and the dynamic cyber threat response options available in a way that can serve as a decision support tool for the human operators.

TOPIC AREA 2: CENTRALIZED CRYPTOGRAPHIC KEY MANAGEMENT

Develop and demonstrate technology for the secure management of cryptographic keys within the energy-sector infrastructure. Cryptographic keys must be securely exchanged, then held and protected on either end of a communications link. This is challenging for a utility with numerous substations that must secure the intelligent devices that comprise complex control systems. This challenge is magnified by the necessity of cryptographic key distribution among the millions of intelligent meters that comprise the Advanced Metering Infrastructure (AMI) being implemented as part of the National Smart Grid initiative. Without a means for secure cryptographic key management no cryptographic solution can be widely deployed to protect the energy-sector infrastructure from cyber-attack.

TOPIC AREA 3: SITUATIONAL AWARENESS DATA COLLECTION, ANALYSIS AND VISUALIZATION

Develop and demonstrate technology that identifies, acquires, correlates, analyzes and displays cyber and physical security-related data from all levels of the control system architecture. This task includes an operations research effort to prioritize security areas and to focus the tool on those security areas that directly support cyber-incident response decision-making. Results of security-related data correlation and analyses can be shown in a real-time visually-intuitive display to inform situational awareness of the real-time control system cyber and physical security posture. Data identified as useful for forensic analysis can be archived for later review in the case that a cyber-attack is suspected. Error-filtering techniques that prioritize error reporting can enhance situational awareness by selecting those errors that convey actionable information, and suppressing those errors that have limited or no operational value. In addition, false-positive and false-negative error reports impede situational awareness and must be aggressively eliminated. The technology must respect the real-time operation imperative of the control system and must not introduce unacceptable latency, or degrade reliability.

TOPIC AREA 4: HARDENED PLATFORMS AND SYSTEMS

Develop and demonstrate technology to provide attack-resistant platforms, including field equipment, front-end processors, real-time operating systems, and other systems that support resilient and robust control system architecture. Technology can include development of hardened field devices, such as programmable logic controllers and remote terminal units, or a security appliance to be installed with each critical asset/end field device to protect it from malicious attack, offering another layer of defense.

TOPIC AREA 5: SECURE COMMUNICATIONS

Develop and demonstrate technology that secures control system communications. For example, perimeter security technology that can implement rules to enforce the behavior of control system traffic, examine the details of control system packets at the application level, and/or offer proxy services for these protocols. The technology must respect the real-time operation imperative of the control system and must not introduce unacceptable latency, or degrade reliability.

TOPIC AREA 6: REMOTE ACCESS

Develop and demonstrate technology that authenticates users and processes so that unauthorized attempts to access resources within the control system environment, including remote field devices, are detected and prevented. This work should investigate the role-based data and control system interaction requirements of operations personnel and develop a secure entitlement management scheme that enforces least-privilege access to control system resources. Particular attention must be given to ensure new technologies will not interfere with the efficient and reliable operation of the end devices, and the technologies and processes are trusted by the operators of the system. The technology must respect the real-time operation imperative of the control system and not introduce unacceptable latency, or degrade reliability.

TOPIC AREA 7: SECURE SMART GRID COMMUNICATION ARCHITECTURE

Develop and demonstrate technology to provide secure, resilient communication architectures for the smart grid communications network that are hardened against cyber-attack, and are able to continue operating in a degraded condition during a cyber-attack. Cyber security for these relatively new systems is particularly challenging because home area networks (HAN) and advanced metering infrastructure (AMI) components (e.g. Smart Meters) are located in areas that are readily accessible and vulnerable to physical tampering or misuse. Also, these systems, must be designed and constructed to be cost-competitive yet secure - which sometimes leads to tradeoffs between costs and security. Moreover, the embedded electronics in the components are sometimes manufactured by untrusted entities. Innovative, graded security architectures and "security built-in"

techniques and methodologies are needed to ensure security while encouraging innovation.

E. APPLICATION REQUIREMENTS

Applicants should prepare and submit applications as follows:

- Applicants may submit more than one application.
- Applicants must only target one Topic Area per application.
- Applicants must clearly identify the Topic Area they are applying to in the Project Narrative.
- Detailed instructions on naming the Project Narrative file are provided in section IV-B-2.

Applicants must submit their application under the Topic Area that they feel best fits the majority of the effort to be performed, and the application must clearly identify the Topic Area being addressed. If the DOE believes an application fits more appropriately in a Topic Area other than the one to which it was submitted, DOE may evaluate the application under the more appropriate Topic Area. Do not submit identical applications under more than one Topic Area.

Each application submitted in response to this funding opportunity announcement must include phases/tasks for research and development (R&D), as well as demonstration of the proposed technology under a real-world situation. As such, the inclusion of a commercialization entity and an electric utility (investor owned, municipal or rural electric cooperative) is highly encouraged. Applications must consist of R&D, and demonstration aspects of the proposed technology. Applicants who fail to address both the R&D and demonstration aspects of the proposed technology will not be considered for award. NOTE: Applicants may propose a project that consists only of the demonstration phase; however, such applications must thoroughly describe the research and development that has already been conducted on the proposed technology and provide evidence that the proposed technology is sufficiently developed for demonstration.

Cooperative Agreements that result from this FOA will be structured to include the R&D effort and the demonstration as separate Budget Periods, or will include a go/no-go decision point prior to initiation of the demonstration phase. As such, applications should be prepared so that R&D and demonstration tasks (along with associated budget estimates) can be readily identified. Moreover, since cost share requirements differ for R&D and demonstration projects, the ability to distinguish between R&D and demonstration work will result in a more accurate determination of overall project cost share.

Commercialization and/or open source (free) availability of the proposed technology is a program expectation; therefore, as set forth in the Statement of Project Objectives, tasks will be included to identify potential markets and marketing strategies and anticipated penetration rates for the technology(ies)/solutions being developed and/or demonstrated.

PART II - AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT

Cooperative Agreements

DOE anticipates awarding cooperative agreements under this funding opportunity announcement (See Section VI.B.2 Statement of Substantial Involvement).

B. ESTIMATED FUNDING

Approximately \$5,750,000 is expected to be available for new awards in FY 2011 and an additional \$14,000,000 is expected to be available for awards under this announcement in years FY 2012 through FY 2013.

C. MAXIMUM AND MINIMUM AWARD SIZE

Ceiling (i.e., the maximum amount for an individual award made under this announcement):

\$4,000,000 (in Federal Funding)

Floor (i.e., the minimum amount for an individual award made under this announcement):

\$ None

D. EXPECTED NUMBER OF AWARDS

DOE anticipates making up to 6 awards (total) under this announcement.

E. ANTICIPATED AWARD SIZE

While the maximum award size (i.e., the ceiling) is \$4,000,000, not including cost share, DOE anticipates that awards will be in the \$3,250,000, not including cost share, range for the total project period.

F. PERIOD OF PERFORMANCE

DOE anticipates making awards with an estimated project period of 36 months.

G. TYPE OF APPLICATION

DOE will accept only new applications under this announcement.

PART III - ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

All types of domestic entities including DOE/NNSA National Laboratories (as defined by EPLA 2005, Section 989) are eligible to apply, except for 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.

Foreign participants will be allowed as subrecipients only to a domestic applicant provided that:

- The foreign subrecipient effort, in aggregate, shall not exceed 15% of the total estimated project costs, including both the applicant's and the foreign subrecipient's portions of the effort.

The proposed project site must be domestically located (i.e., within the United States or its territories, including American Samoa, the Commonwealth of Puerto Rico, Guam, the Commonwealth of the Northern Mariana Islands, and the United States Virgin Islands).

B. COST SHARING

The cost share must be at least 20% of the total allowable costs for research and development projects, and 50% of the total allowable costs for demonstration and commercial application projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR 600 for the applicable cost sharing requirements.)

NOTE: Applications should be prepared so that R&D and demonstration tasks (along with associated budget estimates, including cost share) can be readily identified.

C. OTHER ELIGIBILITY REQUIREMENTS

FFRDC/National Laboratories

DOE/NNSA National Laboratory Participation

A DOE/NNSA National Laboratory is eligible to apply for funding as a lead participant or team member on another entity's application under this announcement if its cognizant contracting officer provides written authorization and this authorization is submitted with the application. (This is not required for the National Energy Technology Laboratory since it is a Government Owned/Government Operated (GOGO) laboratory). If a DOE/NNSA National Laboratory Contractor is selected for award, the proposed work may be authorized under the DOE work authorization process and performed under the

laboratory's M&O contract. The following wording is acceptable for the 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 and will not adversely impact execution of the DOE/NNSA assigned programs at the laboratory."

Federally Funded Research and Development Center (FFRDC) Contractors:

FFRDC contractors may be proposed as a lead participant or 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 FFRDCs: The cognizant contracting officer for the FFRDC must authorize in writing the use of a 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 assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector."

Cost Share: The cost share requirement will be based on the total cost of the project, including the FFRDC contractor's portions of the effort.

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.

Subrecipient Effort: The scope of work to be performed by the subrecipient (including DOE/NNSA Laboratory or FFRDC contractor if proposing as a team member) may not be more significant than the scope of work to be performed by the prime applicant.

The subrecipient effort, in aggregate, shall not exceed 49% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE

Apply at Grants.gov

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 save 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 APPLICATION FORMS

You must complete the mandatory forms and any applicable optional forms (e.g., Disclosure of Lobbying Activities (SF-LLL)) 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 (R&R)

Complete this form first to populate data in other forms. Complete all the required fields in accordance with the pop-up instructions on the form. The list of certifications and assurances referenced in Field 17 can be found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm under Certification and Assurances.

2. RESEARCH AND RELATED Other Project Information

Complete questions 1 through 6 and attach files. The files must comply with the following instructions:

Project Summary/Abstract (Field 7 on the Form)

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 after awards are made. The project summary must not exceed 2 pages when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) {single spaced} with font not smaller than 11 point. To attach a Project Summary/Abstract, click "Add Attachment."

Project Narrative (Field 8 on the Form)

The project narrative must not exceed 30 pages, 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 inch margins (top, bottom, left, and right) single spaced. **EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE.** The font must not be smaller than 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 the following:

- **Project Objectives.** This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.

- **Discussion.** The proposed research, development, and demonstration approach to meeting the identified Topic Area should be clearly described. Tasks for research and development of the proposed technology and a verification/demonstration test of the technology in a test bed, laboratory, or other environment that simulates a real-world situation should be specified. Applications may propose a project that consists only of the verification/demonstration test. However, such applications must thoroughly describe the research and development that has already been conducted on the proposed technology and provide evidence that the proposed technology is sufficiently developed for the test. In addition, a plan for the commercialization of the proposed methodology and/or the approach to offering the technology as an open source (free) must be included. Applications must not include the development of a test bed for the verification/demonstration test. Applications that fail to address the research, development, verification/demonstration, and commercialization of the proposed technology will not be considered and be returned to the applicant.

In addition, applications should discuss how the proposed technology will meet the following general requirements:

- The cyber risk reduction that the proposed technology produces is cost-effective, that is, its cost should be commensurate with the cost of its deployment.

- The proposed technology is capable of having a significant impact on the cyber security of the energy infrastructure.
- If applicable to legacy systems, the technology is capable of being installed without measurable system down time.
- The proposed technology is capable of continuous use.
- Design of the proposed technology anticipates future trends to avoid obsolescence before the completion of the proposed technology's economic life cycle.
- The proposed technology is easily retrofitted or out-of-the-box compatible and interchangeable with a variety of different vendor network, hardware, software, and control devices.
- The proposed technology has the ability to fully protect against unauthorized authentication at all remote access points, whether wire or wireless.
- The proposed technology has a logical commercialization path that includes customer and vendor participation.

Merit Review Criterion Discussion. The section should be formatted to address each of the merit review criterion and sub-criterion listed in Section V. A. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. **DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERION.**

- **Equipment:** List important items of equipment already available for this project and, if appropriate, note the location and pertinent capabilities of each. If you are proposing to acquire equipment, describe comparable equipment, if any, already at your organization and explain why it cannot be used.

- **Bibliography and References, If Applicable:** Provide a bibliography for any references cited in the Project Narrative section. This section must include only bibliographic citations.

- **Statement of Project Objectives (SOPO):** The project narrative must contain a single, detailed Statement of Project Objectives that addresses how the project objectives will be met. The Statement of Project Objectives must contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below. The Statement of Project Objectives may be released to the public by DOE in whole or in part after award. It is therefore required that it shall not contain proprietary or confidential business information.

The Statement of Project Objectives is generally less than five (5) pages in total (and is not included in the 30 page limit for the project narrative file) for the proposed work. Applicants shall prepare the Statement of Project Objectives in the following format:

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

A. OBJECTIVES

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

B. SCOPE OF WORK

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

C. TASKS TO BE PERFORMED

Tasks, concisely written, should be provided in a logical sequence and should be divided into the phases of the project, as appropriate. This section provides a brief summary of the planned approach to this project. An outline of the Project Management Plan (referenced in Task 1.0 below and required to be submitted with your application) is provided later in this Section.

NOTE: Tasks to be performed need to be structured to include the research and development tasks and the demonstration tasks (including verification/demonstration tests) as separate Budget Periods or as go/no-go decision point(s) prior to initiation of the verification test.

PHASE I

Task 1.0 - Project Management and Planning

(Description includes work elements required to revise and maintain the Project Management Plan and to manage and report on activities in accordance with the plan)

Subtask 1.1 – Update Project Management Plan (PMP)

The Recipient shall update the PMP as submitted as part of the original application process. The PMP is a management tool and is continually evolving through review and reassessment and shall be updated subsequently with any major/significant project revisions.

Task 2.0 - (Title)

PHASE II (Optional)

Task 3.0 - (Title)

D. DELIVERABLES

The periodic, topical, and final reports shall be submitted in accordance with the attached "Federal Assistance Reporting Checklist" and the instructions accompanying the checklist.

[Note: The Recipient shall provide a list of deliverables other than those identified on the "Federal Assistance Reporting Checklist" that will be delivered. These reports shall also be identified within the text of the Statement of Project Objectives. See the following examples:

1. Task 1.1 - (Report Description)
2. Task 2.2 - (Report Description)

Other Attachments (Field 12 on the form)

If you need to elaborate on your responses to questions 1-6 on the "Other Project Information" document, attach a file in field 12.

Also, attach the following files:

Project Management Plan

This plan should be formatted to include the following sections with each section to include the information as described below:

A. **Executive Summary:** Provide a description of the project that includes the objective, project goals, and expected results. For purposes of the application, this information is included in the Project Narrative (Field 8) and should be simply copied to this document for completeness, so that the Project Management Plan is a stand-alone document.

B. **Risk Management:** Provide a summary description of the proposed approach to identify, analyze, and respond to perceived risks associated with the proposed project. Project risk events are uncertain future events that, if realized, impact the success of the project. As a minimum, include the initial identification of significant technical, resource, and management issues that have the potential to impede project progress and strategies to minimize impacts from those issues.

C. **Milestone Log:** Provide milestones for each budget period (or phase) of the project. Each milestone should include a title and planned completion date. Milestones should be quantitative and show progress toward budget period and/or project goals.

[Note: During project performance, the Recipient will report the Milestone Status as part of the required quarterly Progress Report as prescribed under Attachment 4, Reporting Requirements Checklist. The Milestone Status will present actual performance in comparison with Milestone Log, and include:

- (1) the actual status and progress of the project,
- (2) specific progress made toward achieving the project's milestones, and,
- (3) any proposed changes in the project's schedule required to complete milestones.]

D. **Funding and Costing Profile:** Provide a table (the Project Funding Profile) that shows, by budget period, the amount of government funding going to each project team member. Also provide a table (the Project Costing Profile) that projects, by month, the expenditure of government funds for the first budget period, at a minimum.

E. **Project Timeline:** Provide a timeline of the project (similar to a Gantt chart) broken down by each task and subtask, as described in the Statement of Project

Objectives. The timeline should include for each task, a start date, and end date. The timeline should show interdependencies between tasks and include the milestones that are identified in the Milestone Log (Section C).

F. **Success Criteria at Decision Points:** Provide success criteria for each decision point in the project, including go/no-go decision points and the conclusions of budget periods and the entire project. The success criteria should be objective and stated in terms of specific, measurable, and repeatable data. Usually, the success criteria pertain to desirable outcomes, results, and observations from the project.

[Note: As the first task in the Statement of Project Objectives, successful applicants will revise the version of the Project Management Plan that is submitted with their applications by including details from the negotiation process. This Project Management Plan will be updated by the Recipient as the project progresses, and the Recipient must use this plan to report schedule and budget variances.]

Save this plan in a single file named "pmp.pdf" and click on "Add Attachments" in Field 12 to attach.

Commitment Letters from Third Parties Contributing to Cost Sharing

If a third party, (i.e., a party other than the organization 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 letter should also identify the proposed cost sharing (e.g., cash, services, and/or property) to be contributed. Letters must be signed by the person authorized to commit the expenditure of funds by the entity and be provided in a PDF format. Save this information in a single file named "CLTP.pdf" and click on "Add Attachments" in Field 12 to attach.

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

If a DOE/NNSA FFRDC contractor or DOE National Laboratory 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 the FFRDC name as the file name (up to 10 letters) and attach to the R&R Other Project Information form in Field 12 - Add Attachments.

Environmental Questionnaire

You must complete the environmental questionnaire at <http://www.netl.doe.gov/business/forms.html>. Save the questionnaire in a single file named "Env.pdf" and click on "Add Attachments" in Field 12 to attach.

3. RESEARCH AND RELATED SENIOR/KEY PERSON

Complete this form before the Budget form to populate data on the Budget form. Beginning with the PD/PI, provide a profile for each senior/key person proposed. A senior/key person is any individual who contributes in a substantive, measurable way to the scientific/technical development or execution of the project, whether or not a salary is proposed for this individual. Subrecipients and consultants must be included if they meet this definition. For each senior/key person provide:

Biographical Sketch: Complete a biographical sketch for each senior/key person and attach to the "Attach Biographical Sketch" field in each profile. The biographical information for each person 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 11 point and must include:

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

Research and 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.

Current and Pending Support

Provide a list of all current and pending support (both Federal and non-Federal) for the Project Director/Principal Investigator(s) (PD/PI) and senior/key persons, including subrecipients, for ongoing projects and pending applications. For each organization providing support, show the total award amount for the entire award period (including indirect costs) and the number of person-months per year to be devoted to the project by the senior/key person. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review. Save the information in a separate file and attach to the "Attach Current and Pending Support" field in each profile.

4. RESEARCH AND RELATED BUDGET (TOTAL FED + NON-FED)

Complete the Research and Related Budget (Total Fed & Non-Fed) form in accordance

with the instructions on the form and the following instructions. You must complete a separate budget for each year of support requested. The form will generate a cumulative budget for the total project period. You must complete all the mandatory information on the form before the NEXT PERIOD button is activated. You may request funds under any of the categories listed 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 Section IV.G).

Budget Justification (Field K on the form):

Provide the required supporting information for the following costs (See R&R instructions): equipment; domestic and foreign travel; participant/trainees; material and supplies; publication; consultant services; ADP/computer services; subaward/consortium/contractual; equipment or facility rental/user fees; alterations and renovations; and indirect cost type. Provide any other information you wish to submit to justify your budget request. If cost sharing is required, provide an explanation of the source, nature, amount, and availability of any proposed cost sharing. Attach a single budget justification file for the entire project period in Field K. The file automatically carries over to each budget year.

***NOTE:** Participation is required in the annual Cyber Security R&D Workshop and peer review, location to be determined. Applicants should ensure their proposed budget includes cost for participating in this required event

5. R&R SUBAWARD (TOTAL FED + NON-FED) FORM

Budgets for Subrecipients, other than DOE FFRDC Contractors. You must provide a separate cumulative R&R budget for each subrecipient that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less). Download the R&R Budget Attachment from the R&R SUBAWARD BUDGET (Total Fed + Non-Fed) FORM and e-mail it to each subrecipient that is required to submit a separate budget. After the Subrecipient has e-mailed its completed budget back to you, attach it to one of the blocks provided on the form. Use up to 10 letters of the subrecipient's name as the file name.

6. PROJECT/PERFORMANCE SITE LOCATION(S)

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

Note that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional district code, for example VA-001. Hover over this field for additional instructions.

Use the Next Site button to expand the form to add additional Project/Performance Site Locations.

7. DISCLOSURE OF LOBBYING ACTIVITIES (SF-LLL)

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 and Files

Your application must include the following documents:

Name of Document	Format	Attach to
SF 424 (R&R)	Form	N/A
RESEARCH AND RELATED Other Project Information	Form	N/A
Project Summary/Abstract	PDF	Field 7
Project Narrative, including required appendices	PDF	Field 8
Project Management Plan	PDF	Field 12
Commitment Letters from Cost Sharing Third Parties	PDF	Field 12
Budget for Federally Funded Research and Development Center (FFRDC) Contractor, if applicable	PDF	Field 12
Environmental Questionnaire	PDF	Field 12
RESEARCH & RELATED SENIOR/KEY PERSON Profile (Expanded)	Form	N/A
Biographical Sketch	PDF	N/A
Current and Pending Support	PDF	Attach Current and Pending Support Field
RESEARCH AND RELATED BUDGET (Total Fed + Non-Fed)	Form	N/A
Budget Justification	PDF	Field K
R&R SUBAWARD BUDGET (Total Fed + Non-Fed) ATTACHMENT(S) FORM, if applicable	Form	N/A

PROJECT/PERFORMANCE SITE LOCATION(S)	Form	N/A
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 or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable

E. SUBMISSION DATES AND TIMES

1. Pre-application Due Date

Pre-applications are not required.

2. Application Due Date

Applications must be received by 7/12/2010, not later than 3:00 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, allocable and reasonable in accordance with the applicable Federal cost principles referenced in 10 CFR 600. The cost principles for commercial organization are in FAR Part 31.

Pre-award Costs:

Applications that include both R&D and demonstration - 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 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.

Applications that include demonstration only - Recipients must obtain the prior approval of the contracting officer for any pre-award costs.

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 email to support@grants.gov.

Further, it is the responsibility of the applicant, prior to the offer due date and time, to verify successful transmission.

2. Registration Process

You must COMPLETE the one-time registration process (all steps) before you can 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).

PART V - APPLICATION REVIEW INFORMATION

A. CRITERIA

1. Initial Review Criteria

Prior to a comprehensive evaluation, an initial review will be performed by NETL to determine the following: 1) the applicant is eligible for an award, 2) the information required by the FOA has been submitted, and 3) all mandatory requirements of the FOA have been satisfied. See the FOA for specific mandatory requirements. If an applicant or application fails to meet these requirements, the Application may be deemed non-responsive and eliminated from further review. Prior to being determined non-responsive and ineligible for award, the concurrence of the Contracting Officer is required.

2. Merit Review Criteria

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

TECHNICAL APPROACH (CRITERION 1)

WEIGHT: 35%

This criterion will evaluate the approach taken by the applicant and the degree to which the proposed technology or methodology meets the stated objectives of the funding opportunity announcement:

- Feasibility that the proposed technology or product will address the need or problem.
- Soundness of the proposed approach and likelihood of success as demonstrated through scientific or engineering merit of the proposed approach.
- Reasonableness and completeness of the proposed Statement of Project Objectives (SOPO) to achieve project objectives and measure success.

SIGNIFICANCE AND IMPACT (CRITERION 2)

WEIGHT: 30%

This criterion will evaluate the degree to which the proposed technology or methodology will impact the cyber security of the energy infrastructure:

- Significance of the benefits and impact of the proposed technology or product compared with current technologies, products or practices.
- Extent to which the benefits and impact of anticipated performance

improvements, including technical, operational and environmental performance; cost savings; societal benefits; and potential for the project to meet or exceed the DOE program goals or program vision.

- Degree to which the proposed demonstration(s) or technology verifications(s), will show an “end user” that the product, technology, or mix of technologies provide value and benefit to be sold as commercial product(s).

COMMERCIALIZATION POTENTIAL (CRITERION 3)

WEIGHT: 20%

This criterion will evaluate the feasibility of the commercialization strategy for the proposed technology or product and the degree to which it will meet the needs of the energy sector in a cost effective manner including:

- Degree to which commitment to the proposed project is demonstrated by including letters of intent from all proposed team members.
- Applicants/Team demonstrated success in commercializing similar technologies and products including those developed by the applicant.

APPLICANT AND PARTICIPANT ROLES AND CAPABILITIES (CRITERION 4)

WEIGHT: 15%

This criterion will evaluate the quality and relevance of experience, capabilities, qualifications, and professional and academic credentials of the proposed team to achieve the goals stated in the SOPO including:

- Reasonableness of time allocations and appropriateness of proposed personnel
- Degree to which the applicant demonstrates sound management principles, and plans for project oversight in the PMP to achieve the project objectives on time and within budget.
- Adequacy (quality, availability, and appropriateness) of facilities and equipment to accommodate the proposed project, including reasonableness of the justification for the purchase of any equipment or supplies.

Program Policy Factors

The following Program Policy Factors may be used by the Selection Official to assist in determining which of the ranked application shall receive DOE funding support:

1. It may be desirable to select for award a group of projects which represents a diversity of technical approaches and methods;

2. It may be desirable to support complementary and/or duplicative efforts or projects, which, when taken together, will best achieve the research goals and objectives;
3. It may be desirable to select a group of projects which represent a diversity of technologies and Topic Areas in order to provide a balanced programmatic effort and a variety of different technical perspectives;
4. It may be desirable, because of the nature of the energy source, the type of projects envisioned, or limitations of past efforts, to select a group of projects with a broad or specific geographic distribution;
5. It may be desirable to select project(s) of less technical merit than other project(s) if such a selection will optimize use of available funds by allowing more projects to be supported and not be detrimental to the overall objectives of the program.
6. It may be desirable to select project(s) that reduce Federal investment and maximize corporate commitment as demonstrated by cost share levels that exceed the minimum required.
7. It may be desirable to select project(s) that demonstrate the proposed technology in a real-time environment and includes a commercialization entity and an electric utility (investor owned, municipal or rural electric cooperative).

B. REVIEW AND SELECTION PROCESS

1. Merit Review

All timely applications that have been determined, through the initial review, to meet the minimum application qualifications will be eligible for merit review. The factors that are to be considered in the merit review are specified in the FOA.

2. Selection

The Selection Official will consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

DOE anticipates notifying the applicant selected for award by 09/01/2010 and making an award by 9/30/2010.

PART VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

1. Notice of Selection

DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance.

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

2. Notice of Award

An Assistance Agreement issued by the contracting officer is the authorizing award document. 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 600; (5) National Policy Assurances To Be Incorporated As Award Terms; (6) Budget Summary; and (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements.

For grants and cooperative agreements made to universities, non-profits and other entities subject to OMB Circular A-110 the Award also includes the Research Terms and Conditions located at <http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR 600 (See: <http://ecfr.gpoaccess.gov>). Grants and cooperative agreements made to universities, non-profits and other entities subject to Title 2 CFR are subject to the Research Terms and Conditions located on the National Science Foundation web site at <http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

2. Special Terms and Conditions and National Policy Requirements, and Substantial Involvement.

Special Terms and Conditions and National Policy Requirements: The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements 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://www.nsf.gov/bfa/dias/policy/rtc/appc.pdf>.

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 resultant cooperative agreements.

RECIPIENT'S RESPONSIBILITIES: The Recipient is responsible for:

- Performing and managing the activities supported by this award, including providing the required personnel, facilities, equipment, supplies and services;
- Defining approaches, milestones, and schedules in the Project Management Plan, submitting the plans to DOE for review, and incorporating DOE comments;
- Reporting on milestones/success criteria in a timely basis;
- Providing all deliverables specified in the award in a timely basis; and
- Participating in all briefings specified in the award Statement of Project Objectives including, but not limited to, project briefings, peer reviews, and participation in annual R&D workshops;

DOE RESPONSIBILITIES: DOE is responsible for:

- Monitoring projects closely and recommending alternative approaches to the work because of interrelationships with other projects within the Cyber Security portfolio;
- Providing guidance for recipient's participation in the annual Cyber Security R&D Workshop;
- Reviewing in a timely manner, technical reports and other deliverables and providing comments to the Recipient;
- Conducting program review meetings and peer reviews to ensure adequate progress and that the work accomplishes the program and project objectives; and
- Serving as scientific/technical liaison and coordinate the close collaboration between participants and other program or industry staff.

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. For a sample Checklist, see <http://www.management.energy.gov/documents/DOEF4600pt292009.pdf>.

PART VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. 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 and comments concerning this FOA shall be submitted not later than 3 calendar days prior to the application due date. Questions submitted after that date may not allow the Government sufficient time to respond.

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:	Jacquelyn Wilson
E-mail:	jacquelyn.wilson@netl.doe.gov
FAX:	(304) 285-4683
Telephone:	(304) 285-4135

PART VIII - OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements.

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 [Insert 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.)

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.

Program Covered Under Special Protected Data

Special Protected Data Statutes: This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to three years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. Generally, the provision entitled, Rights in Data Programs Covered Under Special Protected Data Statutes (10 CFR 600 Appendix A to Subpart D), would apply to an award made under this announcement. This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and will also identify data that will be recognized by the parties as protected data.