STATE ENERGY PROGRAM FY 2002 SPECIAL PROJECTS ANNOUNCEMENT
EFFECTIVE DATE: December 20, 2001
LAST MODIFIED: March 6, 2002

NOTE: *The proposals for (6.3) Building Codes: Technologies and Standards on page 35, Number 4: Innovative Technology Transfer and Advanced Code Elements, should reflect the 2000 International Energy Conservation Code (IECC) and not the 1995 Model Energy Code (MEC).*

SUBJECT: PROGRAM YEAR 2002 STATE ENERGY PROGRAM SPECIAL PROJECTS FINANCIAL ASSISTANCE GUIDANCE

PURPOSE: To provide guidance and management information for the State Energy Program Special Projects for program year 2002.

SCOPE: The provisions of this guidance apply to all States, Territories, and the District of Columbia (hereinafter "States"), applying for 2002 Special Projects financial assistance under the Department of Energy's (DOE) State Energy Program (SEP). Much of the information in this guidance is summarized from the rules applicable to SEP, 10 CFR part 420 and 10 CFR part 600.

ELIGIBILITY: Eligible applicants for purposes of funding under this program are limited to the 50 States, the District of Columbia, American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U. S. Virgin Islands. Applications must be submitted by the State energy or other agency responsible for administering the State Energy Program pursuant to 10 CFR part 420, although States may work in collaboration with non-State partners. For convenience, the term State in this Announcement refers to all eligible applicants.

BACKGROUND: In 2002, for the seventh year, DOE is offering States the opportunity to apply to undertake a variety of Special Projects under SEP. DOE has reviewed its end-use sector energy efficiency and renewable energy programs in which State assistance is an implementation strategy. As a result of this review, DOE is inviting States to submit proposals to implement specific DOE Office of Energy Efficiency and Renewable Energy (EERE) deployment activities and initiatives as Special Projects under SEP. States will compete for funding to implement activities relating to a number of programmatic areas such as building energy codes and standards, alternative fuels, industrial efficiency, building efficiency, and renewable energy technologies. Approximately $18,500,000 million will be available for these projects.

LEGISLATION: SEP is authorized under PL 94-385, PL 94-619, PL 94-580, PL 101-440, and PL 102-486. The end-use sector programs participating in the SEP Special Projects are covered by their respective statutes. All financial assistance provided under SEP shall comply with applicable legislation.

REGULATIONS: SEP is governed by its program regulations (10 CFR part 420) published in the Federal Register on July 8, 1996, and amended in the Federal Registers dated May 14, 1997, August 24, 1999, and May 1, 2000, and the DOE Financial Assistance Rules (10 CFR part 600).

CATALOG OF FEDERAL DOMESTIC ASSISTANCE: The Catalog of Federal Domestic Assistance (CFDA) number assigned to the SEP Special Projects is 81.119.

1.0: STATE ENERGY PROGRAM SPECIAL PROJECTS ACTIVITIES

1.1: SPECIAL PROJECTS GENERAL PROVISIONS: The Office of Energy Efficiency and Renewable Energy is funding Special Projects activities under SEP to accomplish several important goals:

-To directly involve States in activities to accelerate deployment of energy efficiency and renewable energy technologies;
- To facilitate the commercialization of emerging and underutilized energy efficiency and renewable energy technologies; and
- To increase the responsiveness of Federally funded technology development efforts to the needs of the marketplace.

1.2: SEP SPECIAL PROJECTS PROCESS: States are invited to develop and propose program activities (projects) that respond to the competitive categories outlined below. Proposed projects will be evaluated and ranked based on the criteria provided under section six below. States will be notified as to the projects that were selected for funding. States are strongly encouraged to submit proposals in the categories that are best suited to their overall State energy plans. States can receive information from the respective end-use sector office(s) on specific projects not selected for funding by contacting their Regional Office.

(See 10 CFR sections 420.30, 420.31, and 420.32 for more about the process.)

1.3: COLLABORATION WITH STATE ENVIRONMENTAL OFFICES: States are encouraged to develop and implement their Special Projects activities in conjunction with, or in collaboration with the State office overseeing the environment in cases where that is a viable approach. Energy and the environment are intertwined in many ways, and DOE believes in many situations Special Projects activities will benefit from interaction with State environmental offices.

2.0: SEP SPECIAL PROJECTS FUNDING

2.1: SPECIAL PROJECTS FUNDING: A notice of availability of the 2002 SEP Special Projects financial assistance is expected to be published in the Federal Register on January 11, 2002. Approximately $18,500,000 million will be available to States to implement projects described in section six below.

States are invited to compete for funds to implement projects under requirements provided in the instructions included in section six. Selected projects will be funded individually by means of grants or, in the case of Industrial Technologies projects certain Power Technologies projects, cooperative agreements.

In some instances, depending on the overall results of the technical review and available funding, proposals may be funded at lower levels than originally proposed. Such cases will be negotiated on a case by case basis.

2.2A: COST SHARE: The special projects being offered under this announcement may have cost sharing requirements, which are specified by the programs in section six. Some programs encourage cost sharing but do not require it. Where required, cost shares are stated as percentages (i.e., 20%; 50%, etc.), and represent the part of the total cost of the project that must be provided by the recipient. For example, if the total cost of a proposed project is $100,000 and the required cost share is 50%, the recipient would be required to provide at least $50,000 of the cost and the Federal share would not exceed $50,000. (Cost shares as the term is used in this announcement are **never** based on a percentage of the Federal financial assistance.)

Funds used to meet recipient cost sharing requirements must comply with 10 CFR part 600.224. They must not, for example, include costs borne by other Federal financial assistance, unless provided for by statute, or funds or contributions that have been used to meet cost sharing requirements of other Federal financial assistance.

Funds included in State SEP formula grants, whatever the source, and costs covered by SEP formula grants, including salaries of State employees, may not be used to satisfy SEP Special Projects cost share requirements.

Petroleum violation escrow (PVE) funds of the Warner and EXXON types **may not be used** for cost shares; PVE funds of the Stripper Well and Diamond Shamrock type may be used as appropriate.

It is most important that sources and amounts of cost shares be clearly specified in the application. This will facilitate the evaluations of the proposals and will expedite the final negotiations prior to the awarding of the financial assistance for projects selected for funding, helping to avoid delays at crucial steps in the process. To assist in this effort to obtain clear and

consistent information on cost sharing, we are providing a cost share explanation, and recommended input sheets in this announcement (see pages 12 and 13 for copies of these.) States applying for financial assistance are urged to provide cost share information in this format.

2.2B: COST SHARE USING OTHER FEDERAL FUNDS (IF ALLOWABLE): A number of the end-use sectors have specified that their cost shares must be from non-Federal funds, but some are requiring only that the cost shares be from non-DOE sources. That could provide for the possibility of using other Federal funds for cost sharing if that is allowable under the particular circumstances. In such a case, as an example, where the requirement is for a "non-DOE" cost share of 50%, the total cost is $100,000, and the DOE share is $50,000, a cost share from other Federal funds might be provided, up to any allowable limits on overall Federal funding of such projects, perhaps $20,000, and then the non-Federal cost share would need to be $30,000.

In such cases, and where a State has identified other Federal funds to be used in conjunction with DOE funds for the Federal share of the cost, the agencies contributing those funds must provide letters stipulating that their Federal funds may be used in conjunction with DOE funds for the Federal share of the cost of a DOE financial assistance agreement. Such letters should accompany the application, and all Federal funds should be listed as such and properly identified as to source in the appropriate places throughout the application.

(See 10 CFR sections 420.31, 420.32, and 420.33, and 10 CFR part 600.224 for more information.)

3.0: APPLICATIONS FOR SEP SPECIAL PROJECTS

3.1: SPECIAL PROJECTS APPLICATION PROCEDURES: Application packages and instructions will be provided by DOE's Regional Offices. Information regarding specific instructions for the individual special project categories can be obtained by contacting the respective DOE Regional Office end-use sector representatives specified under section six of this announcement. In addition, States may post questions in a specific section of the Office of Building Technology Assistance website. The web-site should be operational on or about December 31, 2001. The address for that Question and Answer Forum is as follows:

http://www.eren.doe.gov/buildings/state_energy/corner_cafe/forum/special_projects

Response postings will be updated as they are received from the respective end-use sector programs.

Each Special Project proposal must include:

- An introductory cover page (see sample format on page 11) that includes:

    - The State's name;
    - The State's name for the project being applied for;
    - The DOE Special Projects end-use sector program being applied for (i.e. Rebuild America, etc.), including the particular category if an end-use sector is offering funding for several types of activities;
    - Other States participating, if any;
    - The amount of Federal funding being applied for;
    - Amounts and sources of cost share, if applicable;
    - Planned completion date;
    - Congressional District of project;
    - A one or two paragraph abstract of the proposed project that succinctly summarizes what the State intends to do, what it hopes to achieve, and, where applicable, what partners it plans to use in the project;
    - The name, address and phone number (and, if available, fax number and e-mail address) of the person in the State who will be responsible for programmatic oversight of the project;

The application proper should have page numbers on every page, shall be structured in accordance with the criteria and requirements in the detailed instructions below, with the sections assembled in the order listed below, and must include:

- A table of contents page listing each section or form, with its respective page number;

And then, starting with page 1:

- A detailed Statement of Work that can serve as a stand-alone document and that is responsive to the technical requirements of this Announcement, and that includes:
    1) a discussion of the activities to be undertaken, including goals and objectives, and the approach for implementing the project; and
    2) a schedule of milestones coupled with a timeline of activities or tasks;

And then, with each of these sections starting on a new page:

- Personnel resources and subrecipient requirements (if any);

- Details on cost shares, presented in the format suggested on pages 12 and 13, or equivalent;

- Other information as specified by the end-use sectors under their respective entries under section six below; and

- The State must provide the following application forms:

  - Standard Form 424, Application for Federal Assistance;
  - Federal Assistance Budget Information Form, DOE F 4600.4;
  - Budget Explanation Form, GO-PF20;
  - Pre-Award Information Sheet, GO-PF19;
  - Environmental Checklist, GO-EF1.

- The following forms are required in the Special Projects financial assistance files, but if current forms are available, they may be copied by the ROs from the States' formula grant documents:

  - US DOE Assurance of Compliance, DOE 1600.5;
  - Certifications Regarding Lobbying; Debarment; Suspension and Other Responsibility Matters; and Drug-free Workplace Requirements; FA-Certs; and
  - Disclosure of Lobbying Activities, SF-LLL.

- Each non-competitively selected first tier subrecipient must provide Part 1 of a GO-PF20 Budget Information Page for form DOE F4600.4, which must be attached to the State's application.

- After a project has been selected for negotiation, the RO Contracting Officer may require additional information, which might include information regarding costs, budgets, and possible environmental impacts of proposed projects.

Copies of the application forms can be downloaded from the Golden Field Office's web site at the following address: **http://www.golden.doe.gov/.** Then click on: "business opportunities"; and then click on "proposal forms". Please obtain the most current versions of these forms from the website, rather than relying on old paper copies, as a number of these forms have been significantly revised. If you do not have access to the website, please obtain current copies of the forms from your RO.

SPECIAL INSTRUCTIONS:

3.1A: IMPORTANCE OF INTRODUCTORY COVER PAGE: This is an extremely important part of the application, as it will be used in reviewing and evaluating the proposal, and in describing the projects in DOE press releases, Special Projects Congressional notifications and fact sheets, and the Special Projects web-site. A sample blank format for this introductory page is included with this guidance (see page 11).

3.1B: NUMBER OF COPIES TO BE SUBMITTED: States are encouraged to submit a signed original and five copies of each application. This is three copies more than required, but DOE's having the additional copies will speed up the Special Projects review process.

3.1C: PLEA FOR CONCISION: Applicants are encouraged to keep their applications as concise as possible, **with a suggested limit of 10 pages**. The 10 pages should include the introductory cover page and the basic application information, including the detailed Statement of Work, personnel resources, subrecipient requirements if any, details on cost share if any, and additional information that may be required under section six for a particular sector. This material should always be placed first in the application packages. Required forms and attachments such as letters of support would not be included in the 10 page limit, but applicants should assure that attachments are germane and as brief as possible.

3.1D: PROJECT PERIOD LIMITS: Project periods must not exceed 24 months (or less, if specified under section six by the end use sector).

3.1E: EXCESSIVE FUNDING REQUESTS CONSIDERED NON-RESPONSIVE: Proposals that request Federal funding above any limits on Federal funding specified for a particular project category (or above the estimated total funds available for a category) will be considered non-responsive, and will not be forwarded to the cognizant sector for review.

3.1F: REQUIREMENTS/LIMITATIONS WHERE STATES PROPOSE TO COLLABORATE: Where a State is proposing to serve as the lead State in collaboration with a number of other partners, **the lead State must specify that it is willing and able to subgrant or otherwise provide funds as needed to its partners**. Where a group of States wishes to propose a collaboration but there is no State willing or able to meet the requirements of a lead State, each State must submit a separate application, with that State's funding needs requested, clearly drafted to spell out the collaborative nature of the project, and the partners involved. DOE would then evaluate and rank such groups of proposals as a single entity.

3.1G: NIX ON GLUE, TAPE, OR SPIRAL BINDINGS/PLEA FOR CLIPS: Please do not glue or tape together the pages of an application or use spiral bindings. Copies that are clipped together are best.

3.1H: PLEA FOR SINGLE SIDED COPIES: Please make all pages of an application either single sided copies only, or double sided copies only. **Applications that are single-sided are preferred.**

(See 10 CFR section 420.33 for more detailed application requirements.)

3.2A: STATE APPLICATION DUE DATE: Applications from States for 2002 SEP Special Projects financial assistance must be received at the State's DOE Regional Office no later than March 15, 2002 in order to compete for this Special Projects funding.

3.2B: PARTNER AND SUBRECIPIENT DUE DATES: Entities that are proposing to participate in a State's Special Project must contact that State to determine what deadline the State has established for the receipt of information it needs to include in its application to DOE, as well as any other requirements the State may have.

3.3: REQUESTS FOR EXTENSION FOR SPECIAL PROJECTS APPLICATIONS: No requests for extensions for the submittal of SEP Special Projects applications will be granted.

3.4: EXPENDITURE PROHIBITIONS AND LIMITATIONS: As provided for under the May 1, 2000 revision to the SEP rule, any special limitations or prohibitions (other than those inherent in the types of projects being sought) on the use of Special Projects funding are specified under the respective program descriptions in this Announcement.

4.0: SEP SPECIAL PROJECTS SELECTION PROCESS

4.1: REGIONAL OFFICE REVIEWS: DOE RO staff will perform an initial review of all Special Project applications for completeness. This review will include verifying that all the information required is included in the application (and obtaining missing information), determining that cost shares are appropriate and have been correctly calculated, etc. Applications will be forwarded to DOE Headquarters and to designated reviewers in the field, for technical evaluation and ranking, with subsequently received clarifying or originally missing information forwarded as it is received.

4.2: PROJECT RANKING: Applications will be distributed to the respective end-use sector offices, and to designated field reviewers, for technical evaluation and ranking. DOE anticipates that evaluators will primarily be DOE employees, but where non-DOE evaluators are used, they shall be required to comply with all applicable DOE rules or directives concerning the use of outside evaluators. Evaluators shall be selected on the basis of their professional qualifications and expertise relating to the particular Special Project activity being evaluated.

4.3: PROGRAM POLICY FACTORS: In addition to the results of the technical evaluation, program policy factors may be applied in the ranking process. These factors may include geographic diversity, diversity of fuels or technologies proposed to be used or demonstrated, and how particular proposed activities reinforce or enhance the programmatic priorities of DOE and the end-use sectors.

4.4: PROJECT SELECTION: The end-use sectors will forward their recommended selections to the Office of Building Technology Assistance (OBTA) for a final review. Determinations of projects selected for funding will be made by the Assistant Secretary, EERE.

4.5: ANNOUNCEMENT OF SPECIAL PROJECTS SELECTIONS: 2002 SEP Special Projects selections are expected to be announced by May 2002, with financial assistance to be awarded by the Regional Offices starting in July or August 2002. The awarding of the financial assistance is dependent upon DOE's receipt of all required grant documentation. Delays in receiving required information from applicants will cause corresponding delays in issuance of financial assistance.

5.0: TRACKING IN WINSAGA DATA SYSTEM, REPORTING, REQUESTS FOR CHANGES

5.1: TRACKING IN WINSAGA: Special Projects financial assistance actions will be entered into the WinSAGA system once the financial assistance has been awarded, and the activities will

be tracked through the quarterly reports and other reports or requests for action that are entered there. In addition, Special Projects activities are referred to in the SEP formula grant State Plans.

5.2: REPORTING: States are required to provide quarterly progress and financial status reports for each SEP Special Project, as specified in the terms and conditions of award. A final progress report summarizing the results of each project must also be provided.

5.2A: REPORTING BY SUBRECIPIENTS: States must ensure that subrecipients submit required reports on a timely basis so that the State may, in turn, get its reports to DOE on time.

5.2B: REQUESTS FOR CHANGES OF SCOPE ONCE FINANCIAL ASSISTANCE AWARDED: Requests for changes of scope should be submitted separately from the quarterly reports, and will be reviewed by both the Regional Office and the Headquarters end-use sector liaisons prior to decision and response. The awardee shall not proceed to assume that the change of scope will be approved; therefore, any costs accrued against the change prior to approval is the responsibility of the awardee. Because Special Projects financial assistance is awarded competitively, a material change in scope may result in termination of the agreement. However, a logical change in direction as a result of findings in the performance of the award may be considered by DOE.

5.2C: REQUESTS FOR EXTENSIONS OF TIME TO COMPLETE SPECIAL PROJECTS AFTER FINANCIAL ASSISTANCE AWARDED: Requests for extension of time to complete projects should be submitted separately from the quarterly reports, and will be reviewed by both the Regional Office and the Headquarters end-use sector liaisons prior to decision and response.

5.2D: PAPER COPIES TO RO'S AND HQ: States that are not using the WinSAGA system for reporting must send the required number of copies of their Special Projects quarterly reports (and any other reports or requests for DOE action) to their Regional Office, and must also send one copy to the DOE Headquarters end-use sector liaison specified under section six of this announcement for the particular project(s) the State is undertaking.

SAMPLE INTRODUCTORY PAGE FORMAT

2002 State Energy Program Special Projects

End-Use Sector Activity Being Applied For: [use title from section 6 of this announcement; add category number or designation if the sector is offering several types of projects]

State Special Project Title: [try to keep to one line]

State Applying for Grant:

Other States Participating: [if any, please list here]

Amount Being Applied for: [enter the amount being sought from DOE]

Cost Share: [enter amount(s) and source(s) of cost share the State will provide, if applicable]

Planned Completion Date: [when project will be completed]

Congressional District of Project: [if project is in one or more districts, please identify; if Statewide, state that]

Project Description: [provide one or two paragraphs clearly describing the proposed project. All information requested on this sheet, including the project description, should fit on 1 page]

State contact for more information:
[provide the name, address, phone and fax number if available, of the staff person to call if information needed]

Other contacts:
[provide names, etc. of others such as Clean Cities contacts]

STATE ENERGY PROGRAM SPECIAL PROJECTS

RECOMMENDED COST-SHARE EXPLANATION PAGE

(This sample page is provided as a suggested guide for explaining the State's proposed cost share sources and types. The information indicated here is required wherever cost shares are proposed, and it facilitates application review if cost shares for all Special Projects are presented in the same format. Hence, the recommendation that this format be used for all types of cost share.)

Name of Applicant	Title of Project

PROPOSED COST SHARE (AND SOURCES)
(Put each source on a separate line; add lines as necessary if more than one source)

Cash:	
Amount: $	**Source:**
State or Third Party In-Kind:	
Amount: $	**Source:**

In accordance with the Department of Energy Assistance Regulations, "Third party in-kind contributions" are defined as: **Property or services which benefit a federally assisted project or program and which are contributed by non-Federal third parties without charge to the financial assistance recipient or a cost-type contractor under the financial assistance agreement.**

Cost-sharing must meet the following requirements of the Assistance Regulations:

- It must be verifiable from the financial assistance recipient's records;
- It must not be included as a contribution for any other federally-assisted project or program;
- It must be necessary and reasonable for the proper and efficient accomplishment of the project or program objectives;
- It must be allowable under the applicable cost principles;
- It must not be paid by the Federal government under another award, except where authorized by Federal statute; and
- It must be provided for in the proposed budget.

Please note any special end-use sector cost-share requirements/options specified under section six.

In order for the Department of Energy to properly evaluate the proposed cost-sharing contributions, each applicant for State Energy Program Special Projects funding shall provide the information specified on this worksheet FOR EACH SOURCE of cost share funds, whether cash or in-kind contributions, and whether the source is the State itself, or a third party.

Name and Address of Contributor

Nature of Contribution	**Estimated Value of Contribution**	**Basis of Valuation**
Personnel		
Fringe Benefits		
Travel		
Equipment		
Supplies		
Contractual		
Other (Specify)		
Other (Specify)		
Other (Specify)		
Other (Specify)		
Other (Specify)		
Indirect		
TOTAL		

6.0 SPECIAL PROJECTS END-USE SECTOR PARTICIPANTS FOR 2002:

6.1 TRANSPORTATION TECHNOLOGIES: CLEAN CITIES/ALTERNATIVE FUELS

Legislation: The Clean Cities/Alternative Fuels program is authorized under Section 505 of EPACT, under the title Voluntary Supply Commitments.

Estimated Funds Available:	$4.5 million
Estimated Number of Projects:	See section below on Projects Requested in 2002.
Funding Ceilings:	See project descriptions below in Projects Requested in 2002 for any project funding ceilings.
Cost Share:	A 33 1/3% non-DOE cost share is required for categories 1a and 2. A 20% non-DOE cost share is required for category 3 and 4, and a 50% non-DOE cost share is required for categories 1b and 5. For example, where a 33 1/3% cost share is required, and the total cost of the project is $150,000, DOE's share would not exceed $100,000 and the grantee's cost share would be at least $50,000. Where 20% cost share is required, and the total cost of the project is $100,000, DOE's share would not exceed $80,000, and the grantee's cost share would be at least $20,000 and the grantee's cost share would be at least $20,000. When cost share specifies a cash contribution, it cannot be in-kind.

Background

The goal of the U.S. Department of Energy's (DOE) Clean Cities program is to accelerate the development of a sustainable alternative fuels market through public/private Clean Cities partnerships formed around the country. The program will continue to provide funds to State Energy Offices for Special Projects to support Clean Cities' alternative fuels and alternative fuel vehicles (AFV) through the development of infrastructure, niche markets, and strategic alliances between the Federal, State and local government partners and private sector Clean Cities stakeholders.

For the 2002 Special Projects, the Clean Cities program is offering funding in five categories listed below to help ensure that local Clean Cities coalitions are vibrant, active coalitions enabling fleet customers to increase their use of AFVs:

1) projects that promote acquisition of commercially-available AFVs that maximize alternative fuel use, especially when those vehicles support AFV niche market activity center or niche deployment strategy; and projects that promote the development of AFV platforms;
2) projects that promote AFV infrastructure development;

3) projects that promote the acquisition of AFV school buses;
4) projects that promote AFV visibility with vehicle signage; and
5) projects that provide cost sharing toward the salary of a Clean Cities Coordinator.

Procedural Guidelines

- In all cases, letters of commitment (not support) must accompany the proposal to substantiate cost share. Without letters of commitment, cost-share will be assumed to be not met, and the proposal cannot be considered.

- Fuel provider fleets covered by EPAct are not eligible to receive funds to purchase vehicles for their own fleets under the Niche Market category. Fuel providers, as participating private-sector partners, must be in compliance with the EPAct alternative fuel vehicle acquisition rule in order to be eligible to receive Clean Cities funding under any other category.

- States must submit special project proposals for alternative fuel transportation projects in partnership with their local, officially-designated Clean Cities coalition.

- Only projects located in active, designated (or approved for designation) Clean Cities are eligible for funding. The primary proposer must be a coalition stakeholder. An "active" coalition is one with a valid and approved Memorandum of Understanding with DOE. "Approved for designation" means that DOE has authorized a designation ceremony for a coalition, making the coalition eligible to complete.

- Projects are evaluated on the value of cost share, and the type of in-kind services being offered, not necessarily the total declared value of the contribution in the proposal, although the minimum requirement must be met. For instance, services such as general office costs, which would be paid regardless of SEP funding, are valued much lower than a strictly financial contribution tied directly to the project.

- Funds for categories 1-3 are intended to pay for hardware. However, DOE recognizes that project management costs may be necessary. If project management costs are included in the budget, the project manager must be identified and his/her responsibilities described (project management costs are not the same as administration costs). If a Clean Cities Coordinator has received a grant award to support a full-time coordinator position, that coordinator cannot claim project management costs on another grant under section 6.1.

- DOE grant money cannot be used to cover the incremental cost of any vehicle which has also received (or will receive) DOE rebate money.

- Proposals must be adequately documented. If hardware is to be purchased, bids identifying hardware cost should be included.

- If the proposer requests funding from more than one special project category, a separate proposal for each category must be submitted for evaluation. For example, projects that

entail funding for both vehicle acquisition, and infrastructure development to fuel those vehicles, must be submitted as two separate proposals addressing the criteria identified in the Niche Markets and Infrastructure categories, respectively.

- A final report including the following pertinent information must be submitted:
  Niche Markets (Category 1) and School Buses (Category 3) - Vehicle procurement schedule or anticipated delivery dates, copies of vehicle purchase orders placed with dealer or invoices clearly indicating alternative fuel options and costs. Lists of applicable rebates or other non-DOE incentives applied for or received..
  Infrastructure (Category 2) - Site identification, project construction schedule, permit verification, equipment selection with itemized costs or final bid information, and final list of fleet participants and key partners.
  Signage (Category 4) - A description of the vehicles in service, a photo of the vehicle (s) with signage, the number of vehicles and the length of time the vehicles will be in service.

- The performance track record of prospective grantees which have received previous grants will be taken into account. Applicants must describe the status and results of previous grants in the application.

- Applicants should be aware that permits may be required for many infrastructure projects. If the applicant does not have the required permits within one year of the grant negotiation date, funds for the grant will be de-obligated.

Projects Requested in 2002

Category 1a: Niche Markets - Projects that promote acquisition of AFVs in "Niche Market" Fleets. Funding is available for the incremental costs of dedicated highway-certified AFVs and AFVs that will maximize alternative fuel use. DOE has particular interest in funding medium and heavy duty vehicles, for use on roads and highways. Priority will be given to "Niche Market" fleets (such as airport shuttle buses and vans, taxi fleets, cargo delivery vehicles, and local government fleets of refuse haulers, motor pools, and support operations) that demonstrate a strategy which concentrates AFVs in activity centers that maximize infrastructure utilization. Proposals that include bi-fuel or dual fuel AFV technologies must submit a fuel use data collection and reporting plan that will be used for the duration of the project to document and verify maximum alternative fuel usage. In addition, bi-fuel or dual fuel AFV proposals must describe what refueling infrastructure is available and how the applicant will ensure maximum alternative fuel use. Incremental costs for AFV projects must be calculated on the net price difference between the proposed AFV and a similarly equipped, conventionally-fueled vehicle after all other applicable manufacture and local/State rebates and cash equivalent incentives are applied. Documentation supporting the cost of the vehicles to be acquired must accompany the proposal. Any vehicles which are acquired with SEP funds must display a Clean Cities decal provided by DOE. In this category, the Clean Cities program is interested in funding approximately nine (9) to fourteen (14) projects not to exceed $100,000 per project on light duty vehicles, and $200,000 per project on medium and heavy duty vehicles. A cost share of 33 1/3% is required.

Category 1b: Niche Markets - Platform development. Clean Cities will also consider a limited number (1-2) of proposals for AFV platform development. We recognize that it is becoming increasingly difficult to expect one entity to undertake the risk to develop an AFV engine/platform, especially for speciality or niche markets. Proposals are limited to medium and heavy duty on-road alternative fuel vehicles. Only total vehicle integration projects will be considered (not conversion kits or components for individual engine families or fuel systems). We are particularly interested in proposals for a front-engine Type C school bus. Proposals must identify the vehicle platform and fuel type to be developed, project partners, and the cost-share contribution of each. The proposal must also contain a development time line that includes adequate field-test and shakedown activities. The project must have a major auto, truck or engine manufacturer as part of the development team. The project manager and his time commitment must be identified. The proposal must include documentation to describe a potential market large enough to offset development costs, and a brief description on the marketing strategy to be employed to sell the vehicle. The end result should be a product that is commercially available within 2 years or less of grant award date. The proposed engine/fuel system must be emissions certified to meet EPA standards for the period when the vehicle will be commercialized, and any vehicle chassis/platform modifications must comply with applicable Federal highway safety standards for that period of time. In this category, the Clean Cities program is interested in funding approximately 1-2 projects not to exceed $200,000 per project. A cost share of 50% is required.

Category 2: Projects that develop AFV refueling infrastructure. Infrastructure projects can include new facilities or upgrades and improvements to existing AFV fueling sites. Project proposals should include the fuel type, estimated fuel use sales (i.e. fuel quantity based on fleet commitments, not the total capacity of the station), and the projected number of AFVs that will use the facility. Whenever possible, identify actual fleets that have pledged to use the site and include letters of commitment to that effect. Projects that include fleet commitments for fuel purchases at the fueling site will be of particular interest. Extra consideration will be given to fueling sites that have public access provisions. Projects that include card lock systems must utilize a universal reader technology and, whenever possible, support station networking protocols already established in the region. Refueling sites that contribute to an infrastructure corridor development plan or strategy are desirable and should be clearly noted. Also desirable are refueling stations which will provide alternative fuels to EPAct-covered (Federal, State, and fuel provider) fleets. These fleets should be identified. Each fueling site location must be identified (a sketch or simplified site layout drawing is desirable), and applicants must submit a project implementation plan that includes a proposed construction schedule, a discussion of permitting requirements, and environmental assessment needs. The applicant has one (1) year after the award date to complete local permitting requirements or DOE funds will be de-obligated. In this category, the Clean Cities is interested in funding approximately seven (7) to ten (10) projects not to exceed $150,000 per project in this category. Clean Cities will also fund three (3) to four (4) "cluster" projects not to exceed $250,000 per project. A "cluster" project contains a minimum of three refueling sites in a specific geographic area to offer greater fuel use options by fleets. A cost share of 33 1/3%, with 50% of this amount in cash, is required.

Category 3: Projects that deploy alternative fuel school buses. Funding is available to support DOE's Energy Smart Schools initiative, by paying for the incremental costs of alternative fuel school buses. No projects involving the use experimental vehicle technologies will be funded. Proposers are encouraged to coordinate/partner with bus OEMs and other school bus fleets interested in similar vehicle platforms in an effort to maximize factory orders for specific vehicle types. Priority will be given to projects that are identified as being part of this type of industry consortium partnership. Alternative fuel school buses in this category must use emissions certified engines from original equipment manufacturers (OEMs). DOE has particular interest in funding larger projects (which include 5 or more new alternative fuel buses going to one location), as well as expansion projects where additional AFV buses are being acquired to grow existing AFV fleets. Any vehicles which are purchased with DOE funds must display a Clean Cities decal, provided by DOE. In this category, the Clean Cities program is interested in funding approximately five (5) projects not to exceed the range of $100,000 to $200,000 per project. A cost share of 20%, with 25% of this amount in cash, is required.

Category 4: Projects that promote awareness of AFVs by using prominent permanent vehicle signage (e.g.; transit buses, shuttle vans, delivery trucks, etc.). Funding is available for prominent signage permanently affixed to vehicles that clearly identifies them as AFVs (e.g.; "Powered by Clean Natural Gas", "Electric Powered Vehicle", etc.). Proposals in this category should include a design or sketch of the proposed signage layout clearly indicating the size of the print/graphics, the proposed location on the vehicle, and a description of the anticipated audience or public exposure potential. Projects will not be considered if they are part of commercial advertising campaigns or involve the lease/purchase of temporary advertising space or are for special events or short periods of time. Signage must include the Clean Cities logo in some form. Fleets that cannot display the Clean Cities logo due to pre-existing contractual or legal reasons must request a waiver from this provision as part of the proposal. DOE retains the right to approve/disapprove the final design. In this category, the Clean Cities program intends to fund between three (3) and six (6) projects not to exceed $25,000 per project. A cost share of 20% is required.

Category 5: Clean Cities Coordinator positions. The Clean Cities Coordinator is critical to coalition success. Coordinator responsibilities include, but are not limited to: organizing and holding "Advancing the AFV Choice" events; developing fund-raising strategies and/or writing grant proposals; holding public education and outreach campaigns; developing legislative strategies; and developing and promoting training programs on the maintenance of AFVs. Although DOE prefers to fund full-time coordinators at $25,000 per project, we recognize that not all coalitions are large enough to support a full-time coordinator. Therefore, DOE will consider funding a limited number of part-time coordinators at $15,000 per project. Applications must specify the percentage of time the coordinator will spend in the position. DOE funding for a coordinator position is intended to enhance the sustainability of the coalition. Therefore, coordinators funded by DOE must be employed by the coalition host organization, and must not be contractor personnel. DOE will fund approximately sixteen (16) projects in this category. A cost share of 50%, with 50% of this amount in cash, is required. DOE assistance in this category is intended to be a temporary mechanism to help coalitions become more self-sustaining. Therefore, coalitions that have not received coordinator funding in the past two years under SEP Special Projects will receive priority.

Evaluation Criteria for Niche Markets, Infrastructure, and School Buses - Categories 1, 2, and 3 respectively

Proposals submitted in categories 1, 2, and 3 will be evaluated and ranked by the following criteria:

1) Probability of project success based on the technical feasibility of the project, thoroughness of project implementation plan, identification and qualifications of appropriate team members, and quality of supporting documentation (i.e. letters of commitment, equipment bids, etc.). (40 points)

2) Energy security benefits as indicated by the estimated amount of fuel dispensed at alternative fuel refueling stations introduced as a result of this project and/or by the estimated alternative fuel used in vehicles purchased in categories one (1) and three (3). (20 points)

3) Probability of project success, as indicated by coalition and partner(s) past performance as reflected in the final report and WinSaga data base. The proposal should demonstrate that the team has sufficient expertise and experience to bring the project to a successful conclusion. Grading factors will include: successful prior project management experience with significant AFV and infrastructure deployment results, prior AFV related grant implementation success; and consistency with previously documented coalition goals, and completeness of 2001 Clean Cities Annual Survey. (10 points)

4) Extent to which project will contribute to a sustainable alternative fuel market and potential for future growth without additional Federal funding. (10 points)

5) Visibility of project activities - probability of increasing awareness and acceptance of alternative fuels and AFVs among target sectors in the local community including, but not limited to, current stakeholders, fleet operators, media, and the general public. (10 points)

6) Greater cost share participation or cash equivalent contribution than is required. Financial investment and active participation from other coalition stakeholders and partners are strongly encouraged. (10 points)

Evaluation Criteria for Vehicle Signage - Category (4)

Proposals submitted in Category 4 will be evaluated by the following criteria:

1) Prominent signage layout and easy to understand message theme. (30 points)

2) Potential for public exposure or high impact visibility. (30 points)

3) Length of time signage will be displayed. (25 points)

4) Discussion of public information or outreach plan or activities that will complement signage. (15 points)

Evaluation Criteria for Coordinators - Category 5

Proposals submitted in Category 5 will be evaluated by the following criteria:

1) Ability to strengthen the Clean Cities coalition to help meet its Program Plan/Memorandum of Understanding (MOU) goals for (a) alternative fuel vehicle and infrastructure deployment; (b) fleet operator recruitment and outreach; (c) and public education and information. (35 points)

2) Probability of success, as indicated by the past performance of the coalition. If there is no record of past performance, the proposal can be evaluated on future potential. Grading factors will include: successful prior project deployment and grant implementation; coordination and consistency with previously documented coalition goals; progress accelerating the deployment of AFVs; and quality and quantity of participating stakeholders and partners. Potential leveraging of future resources may also be considered, if applicable. (30 points)

3) Visibility of coordinator activities - probability of increasing awareness and acceptance of alternative fuels and AFVs among target sectors in the local community including, but not limited to: current stakeholders, fleet operators, media, and general public. (20 points)

4) Greater than a 50% cost share participation or greater than 50% of the cost share in cash. Leveraging and active participation from other coalition stakeholders and partners are strongly encouraged. (15 points)

Program Policy Factors

The DOE Clean Cities program will apply program policy factors. The following factors will not be point scored but will be assessed: geographic location of applicant, diversity of alternative fuels, and demonstrated need for Federal funding.

Program Contacts:

Headquarters:	Dorothy Wormley	(202) 586-7028
Regional Offices:		
Atlanta:	David Dunagan	(404) 562-0561
Boston:	Michael Scarpino	(617) 565-9716
Chicago:	Melinda Latimer	(312) 886-8582
Denver:	Ernie Oakes	(303) 275-4817
Dallas area:	Dan Deaton	(972) 491-7276
Philadelphia:	Patricia Passarella	(215) 656-6966
Seattle	Roxanne Dempsey	(206) 553-2155
California area:	Julia Oliver	(510) 637-1952

6.2 INDUSTRIAL TECHNOLOGIES

Legislation: Industrial Technologies activities are authorized under the Energy Policy Act of 1992 (P.L. 102-486), Title I, Subtitle D, Section 132.

Estimated Total Funds Available:	$3 million
Estimated Number of Projects:	20 projects with a maximum Federal share of $200,000 for States entirely new to the State Industries of the Future (SIOF) process and a maximum Federal share of $100,000 for States continuing in the SIOF process.
Cost Share:	Cost share of 20% and up from non-Federal funds is encouraged.
Cooperative Agreement:	Financial assistance resulting from this section of the 2002 Special Projects Announcement will be in the form of cooperative agreements.
Negotiation:	Applications that are selected for funding will be subject to negotiation for full or reduced funding depending upon the tasks proposed and/or funding limitations.

Goal

The goal of this section of the 2002 Special Projects Announcement is to broaden the impact of investments in advanced industrial technologies and practices for energy savings and waste reduction supported through the implementation of the nationally developed Industries of the Future (IOF) visions and technology roadmaps. This goal will be accomplished by the formation of strong State government/industry/university partnerships working to: 1) identify key target industries and their importance to the State economy; 2) facilitate the formation/involvement of target industry alliances, including universities; 3) garner the involvement/support of high level State officials; 4) coordinate/leverage activities with similar State initiatives and; 5) identify the necessary resources from the State, Federal Government, and industry which can be applied, and mobilize those resources into action to address pressing energy, environmental and resource needs in the industrial manufacturing sector.

Funding

A maximum Federal share of $200,000 is available for States that have not previously participated in State Industries of the Future SEP Special Project funding. These funds are available for projects up to 2 years in duration, but might also be for projects of one year in duration. It is imperative that the work statement and project duration are commensurate with the funding request. States that are continuing in their State IOF efforts may apply for a maximum of $100,000 Federal share for work statements of up to two years, but the duration

may also be for one year – the maximum Federal share is $100,000 regardless of the one or two year statement of work duration (not $100,000 per year.) States that are continuing must also demonstrate a substantial expansion in work scope from previously funded work statements (described in detail under the criteria section of this task statement) in order to be considered for continued funding.

Background

The mission of the Office of Industrial Technologies (OIT) is to improve energy efficiency, environmental performance, and productivity of materials and process industries by developing and delivering advanced science and technology options that will: (1) lower raw material and depletable energy use per unit output; (2) improve labor and capital productivity; and (3) reduce the generation of wastes and pollutants. OIT accomplishes its mission through its IOF strategy, which focuses on nine energy-intensive and waste-intensive industries in the industrial manufacturing sector: Agriculture (limited to bio-based industrial products), Aluminum, Chemicals, Forest Products, Glass, Metalcasting, Mining, Petroleum Refining, and Steel.

The IOF strategy involves three key processes, each carried out by individual partnerships between OIT and targeted industries. It begins with bringing an industry together to collectively identify issues and develop an industry-wide vision of where it could be in the next 10 to 20 years. This is followed by developing an industry roadmap(s) that identifies and prioritizes the efforts needed to achieve the goals of the industry vision. The final step involves implementing a prioritized agenda to develop and deliver technology solutions to meet the identified industry needs and thus to accomplish the industry roadmap(s). OIT's initial role is therefore to act as a facilitator in bringing an industry together and in assisting the industry in creating its vision and developing its roadmap(s).

The OIT role then evolves into acting as a collaborator with an industry on research, development, deployment and industrial practices, to implement its technology roadmap(s). Functioning in this partnership capacity, OIT provides each targeted industry with integrated products and services, encompassing such functions as technical and financial assistance, information distribution, policy evaluation and support, and market analysis, all of which are critical to the successful execution of each of the three key processes mentioned above. Information about IOF visions and roadmap and specific OIT products and services in the areas of research, development, demonstration, and financial and technical assistance can be found on the OIT web site (**http://www.oit.doe.gov).**

Projects Requested in FY 2002

This section of this announcement seeks projects that specifically target State implementation of the IOF. The goal is to broaden the impact of investments and implementation of industry visions and technology roadmaps on energy savings and waste reduction. This goal will be accomplished through building strong collaborations among, and obtaining wide participation from State agencies, related industries and universities within the States. Building off national visions and roadmaps, the State implementation will result in a greater impact because more companies will become involved in developing and implementing new energy efficiency and

waste reduction technologies as well as in adopting technological advances introduced by the OIT/industry partnerships. The State/industry/university partnerships will also allow other OIT products and services, such as financial and technical assistance, to be delivered in a more coordinated way to a broader base.

This section of this announcement seeks proposals that would implement the IOF* processes in individual States to establish State government partnerships with one or more of the industries listed below, over a maximum duration of two years:

Agriculture (limited to bio-based industrial products)
Aluminum
Chemicals
Forest Products
Glass
Metal Casting
Mining
Petroleum Refining
Steel

*(For a detailed understanding of the visions and priorities that are focus areas for each industry, please visit the OIT website at **www.oit.doe.gov.** In addition, Attachment 2 to this section provides a detailed list of National American Industrial Classification System Codes (NAICS) that are included in each IOF focus area. It is not sufficient to consider working with the identified target industries alone. It is imperative that the proposer understands what elements of that industry are addressed in the national visions and roadmaps, and that the targeting of those priority areas is considered in the proposed work. The proposal should include the appropriate NAICS code for each industry area targeted.)

A State may desire to implement the industries of the future strategy with segments of their local economies that are not included in the Office of Industrial Technologies portfolio (the nine industries visions and roadmaps identified above.) We encourage these efforts, but they will **not be funded under this section of this announcement or via other OIT funds**.

Successful applicants under this task will be expected to attend a two day training and information session in the Washington DC area shortly after awards are announced. In addition, successful applicants will be required to participate in a maximum of two one day project reviews at the DOE Regional Office serving them during each calendar year of the project's duration. Applicants are expected to include the costs associated with transportation and lodging needed for participation in these events in their proposal and budget.

New Partnerships

For each new (State **not** receiving funding for State IOF implementation in FY99, FY00 or FY01) State government/industry partnership proposed in response to this section of this announcement, proposals must address all of the following task requirements:

- Identify target industry(ies) in the State and their importance to the State and/or regional economy. All of the target industries must be consistent with the nine key national IOF target industries. Elements to consider are the economic and employment impact of the industry to the State and the energy and environmental impact.
- Identify by name companies in target industries that may be, or have been, contacted for participation. **Letters of support from participating industry companies or local and regional industrial associations are particularly encouraged and will weigh heavily in the evaluation of industry commitment**. Letters should be on company / association letterhead and should be included as attachments to the proposal.
- Facilitate the formation of target industry alliances involving industrial companies and other organizations such as State or national industrial associations, State agencies (the energy, economic development and State science and technology offices should be included), government laboratories and centers, other research institutions -- **alliance formation that includes universities with industrial extension services is particularly encouraged.**
- Deliver information and/or technical and financial assistance on OIT products and services, and target appropriate IOF audiences.
- Establish a State IOF strategy, preferably coordinated with other related State initiatives, to envision industry-defined goals that address such issues as energy savings, pollution prevention, and productivity improvements -- all aimed at increasing economic viability over a time period of five, ten, or more years.
- Develop and implement an action plan describing what State industries, State agencies and research partners would do to address the issues identified above. The plan should address and provide specifics about each of the key elements below:
  - defining industry priorities of needs (or roadmaps,) using the national-level IOF visions and roadmaps as guidance (these State-level roadmaps / needs assessments should become the guiding documents for all further investment and action decisions on behalf of that industry in the State. They need not be solely devoted to technology or energy issues, but might also contain economic, environmental, workforce and regulatory agendas that local industry deem as important for future survival);
  - identify a prioritized agenda defined by State industries;
  - identify resources necessary to address prioritized needs and identify organizations (State agencies, companies, research institutions, and universities) that would be involved;
  - identifying how State industries could have better access to and/or be more engaged in the national-level IOF visions, roadmaps, and practices; and
  - defining how State industries could make better use of available services and products from DOE/OIT and other Federal, State, and non-governmental organizations to address prioritized needs; and
- Identifying opportunities for energy fairs, technology expositions or participation in IOF national technology showcases. (An energy fair is an event that showcases near-term technology opportunities for dealing with urgent energy needs. Energy fairs can be industry specific or more generalized, but have the goal of providing access to energy-saving 'Best Practice' solutions that local firms could implement quickly. A technology exposition is usually industry specific and involves showcasing and demonstrating both

near-term 'Best Practices' and significant energy saving technology advances / equipment in operation (on an plant floor) or in conjunction with ongoing University research. A national IOF showcase is sponsored by one of the nine IOF vision teams and hosted by one or more local industrial facilities.)

- Describe how the State IOF process will become self-sufficient – how the process will continue once the funds from the cooperative agreement have been expended.
- Develop and deliver training and other information dissemination activities to facilitate implementation of IOF at the State level; and
- Describe products, services, and deliverables to be produced under the cooperative agreement.

Existing Partnerships/Continuing Work

Several criteria have been established that must be met before a State will be defined as having accomplished a true State IOF. Continuation work will be considered for funding based on the substantiated achievement of some or all of these criteria. In addition, continuation work should explicitly address how the State will proceed to accomplish the State IOF criteria not yet attained. Finally, States that have not met deliverables and performance goals from previous grants, or who have not expended the resources from previous grants in a timely fashion, may be down-graded or not selected for follow-on funding.

States that currently have funds and time remaining from prior year awards (are in mid-process) must identify substantial or substantive deviation from current work statements in order to be considered for additional funding prior to the exhaustion of an existing award. These substantial or substantive deviations might include the addition of an entirely new target industry not currently being pursued, or the conduct of energy fairs, technology expositions or participation in national IOF showcases not appearing in earlier work statements. Applicants must clearly differentiate new efforts from work in progress. Preference will be given to meritorious applications that are at the end of their funding cycles.

The State IOF criteria for success are as follows:

1) Defined individual champion(s), either from State agencies, universities or local industry
2)State Industry Profiles
- Significant State-level energy or environmental impact in at least one IOF (with the goal to expand to more, if applicable)

3) Demonstrated industry leadership and involvement including key industry participation on implementation team.
4) Defined, committed implementation team and fully supported implementation plan.
5) Signed Memorandum of Understanding (DOE with senior State official).
6) Commitment to monitor accomplishments and report results through an annual symposium.
7) The conduct of energy fairs, technology expositions or participation in national IOF showcases.

8) Development of state-level industry specific needs assessments or "roadmaps" (these state-level roadmaps should derive from the national roadmaps for that industry and not re-create the wheel. These roadmaps should become the driving documents for future investments and actions.)
9) Identification of research projects relevant to identified state-level needs or roadmaps and participation in national R&D solicitations.
10) Opportunities and strategies to leverage State and /or other funding to match Federal resources.
11) Exit strategy, demonstrate ability to sustain efforts once Federal funds are expended.

Evaluation Criteria

Proposals will be evaluated according to the following criteria:

1. Viability of approach for achieving desired outcomes in the State. This includes assessment of the extent of industry involvement in the project as demonstrated through letters of commitment, identification of a champion, identification of an approach for attaining **senior** State government involvement and commitment (MOU signing,) participation by more than one State agency -- likely the State Economic Development and Science and Technology organizations, a well documented implementation plan, the identification of key research partners such as universities and national laboratories, a plan for self sufficiency, and proposed measures of success for assessing attainment of the goals. (25 points)
2. Understanding of the national IOF strategy and processes, and maximized use of national-level visions, roadmaps and OIT products and services to guide and facilitate State implementation. **A substantial amount of the consideration in this section will be given to States that consider and identify the coordination of the State IOF efforts with other OIT industrial activities in the State (if they exist), including but not limited to the Industrial Assessment Center (IAC) program; various BestPractices efforts such as Plant Wide Assessments and industrial process system training programs, national level Showcase events, etc.** (20 points)
3. Clearly stated project deliverables and measures of success identified and tied to the stated goal for this section of this Announcement. Each application **must** contain a completely filled out milestone table containing the following information: milestone, planned start and completion dates, responsible organization (who is performing the work) and dollars required to complete each milestone -- both Federal dollars and the cost share dollars for that milestone if applicable (See Attachment 1 for example). (20 points)
4. Clear understanding of the State's industry profile, focusing on the target industries selected for inclusion in the State IOF. (15 points)
5. For **continued** State/industry partnership: achievement of any or all of the identified criteria for success and plans for accomplishing those criteria not yet attained. Success at meeting milestones and expending funds from previous awards will also be considered. (15 points. For continuation projects, 5 points will be deleted from each of the following criteria - #2, #4 and #7 - to account for additional points in this area.)
6. Cost sharing and resource sharing of State/industries/other organizations. (10 points)

7. Qualifications and ability of the project team, including State, industry, and subcontractor (if any) personnel to complete the work successfully. A key element is the "robust" nature of the team, including participation from multiple State agencies, universities and industry. (10 points)

A responsive application shall contain the following information and use the following format. Where appropriate, identify who the anticipated participants for each activity will be, in particular, for those activities where you would anticipate participation from DOE Headquarters or Field personnel.

1. **Viability** of approach for achieving desired outcomes. (This section should address the items below.)
    - The proposed process that you will use to initiate or employ to develop or continue the development of your State IOF. This section should include key activities and events, expected timing of events and key participants.
    - A discussion of what industries you will focus on, and why.
    - Industry involvement -- who have you contacted and involved, or are you planning to contact and involve in the process, including letters of commitment from industry, industry associations, universities, laboratories and other State agencies. **Selection priority will be given to proposals that involve multiple implementation partners, in particular universities, laboratories and importantly State agencies such as, Economic Development/Trade and State Science and Technology organizations, in partnership with the State Energy Offices. Concrete examples of participation by these multiple parties is important.**
    - Identified champion – individual or organization, who you expect can lead this effort. (This champion is often not the proposer, but rather someone from industry, academia or a national laboratory who stands to benefit from these activities and would subsequently be motivated to lead the effort even after cooperative agreement funding is complete.)
    - Approach for engaging senior level State government officials, including the Governor's Office. What level of State involvement do you expect to garner, and what roles will be played by State agencies and State officials. Buy-in by the Governor's Office is usually considered a critical element to a successful State IOF and should be included in this discussion. (Multiple State agency participation can help with this element.)
    - Key research players, including industry participants and industry associations, State agencies other than the proposer, universities, laboratories and others who are expected to participate.
    - Proposed measures of success and methods of evaluation.
2. **Industries of the Future Approach**: demonstrated understanding of the national IOF program and how the State efforts will relate to these efforts. (This section should address the items below.)
    - Familiarity with national program, the process and the industry visions and roadmaps and where the "fits" are with State industrial participants.
    - Identification of participants in the national program within the State who can assist with the State effort.

- Familiarity with OIT products and services, what is offered and how industries in the State might benefit from participation in these products and services.

3. **Deliverables and Milestone Chart:** the proposed deliverables should be clearly described and should relate in a meaningful way to the statement of work. A milestone chart should be included that contains:
   - A line by line breakdown of each significant milestone that will be accomplished as part of the proposed statement of work including:
     - start and end date of each milestone;
     - the Federal and cost share dollars anticipated to accomplish each milestone; and
     - who will perform the work. (See Attachment 1 for example.)
4. **Industry Profile**: the importance of the target IOF industries in the State. (This section should address the items below.)
   - Process for collecting economic, energy and waste data for target industries (those that the State is proposing to include in their State IOF efforts.)
   - A discussion of why programs to help these industries are important to the State and will garner support from senior State officials.
5. **Continuation Efforts:** proposals that are continuations from previously funded State Industries of the Future awards (FY01, FY00 or FY99.) For continuation efforts less emphasis need be put on addressing items #1, #2 and #3 for a greater focus on this item.
   - Discuss the status of, or completion of, the criteria identified above for a successful State IOF. Discuss the steps that will be taken under this award to move forward on the not yet completed criteria.
   - Discuss in detail what has been accomplished as a result of the prior awards, including all milestone completions. This section should relate prior accomplishments to measures of success.
   - Discuss in detail plans for energy fairs, technology expositions or participation in a national IOF showcase. Be as specific as possible including proposed locations, timing and participants.
6. **Cost Share:** what is the financial contribution from the applicant, both in-kind and cash?
7. **Applicant/Team Qualifications**. Please identify who will be leading each task and what their qualifications are. This section should include a discussion of the entire team that you anticipate will be implementing your State Industries of the Future effort and associated qualifications. More robust teams involving industry participants, multiple State agencies, universities and laboratories will be given higher scores.

If the application does not follow the established format and the reviewers are unable to find the pertinent information expeditiously, a lower evaluation may result. All of the criteria and application sub points must be addressed.

Program Contacts

Headquarters:		Yolanda Frinks	(202) 586-0597
Regional Offices:	Atlanta	David Godfrey	(404) 562-0568
	Boston	Scott Hutchins	(617) 565-9765
	Chicago	Brian Olsen	(312) 886-8579
	Denver	Jack Jenkins	(303) 275-4824
	Philadelphia	Joseph Barrett	(215) 656-6957
	Seattle	Chris Cockrill	(816) 873-3299

SEE ATTACHMENTS ON FOLLOWING PAGES

Attachment 1

STATE IOF STATEMENT OF WORK REQUIREMENTS

1. State the task or milestone in a narrative form and clearly indicate what the applicant will achieve with the project funds (including federal and cost share funds).

2. Include an organized list of tasks -- see below, with estimated time frames, responsible individual/organization, and projected cost, which supports the project objective.

Task/Milestone Table

Task Number	Task/Milestone Title	Estimated Time frames (Months from Award)	Responsible Individual/Organization and Expected Participants	Projected Cost (Federal/Cost Share Funds)	
				Federal	Cost-Share
Task 1					
Task 2					
Task x					

Include for each task a detailed description and expected results in narrative form and correlate with projected costs per task. Discuss roles and responsibilities of each team member, and identify expected participants, especially for events such as kick-off meetings and showcases.

An example might look as follows:

Task 1: Identify and recruit industry participants. The State of _____ Energy Office will utilize local trade associations in the steel industry to identify the key steel companies in the State. Once identified, each company will be invited to a opening workshop, expected to last about 6 hours, to discuss their key needs to address energy, environmental and resource efficiency issues. The invitations will first be done by mail, and then followed up by individual phone calls. Key State government representatives will be on the agenda to better ensure participation. The State will also use Mr./Ms. _____ who has been an active participant in the national IOF Steel program to help invite his/her industry to this meeting. Mr./Ms._____ will help add needed credibility and will be able to clearly address the benefits of the IOF program to these new participants. Participation includes State agencies, our university partners, the local steel industry association and _____ steel companies. A technical team representative from DOE would be helpful at this event.

Attachment 2

OIT NAICS Codes

Agriculture:
OIT's IOF Agriculture initiative with U.S. industry focuses on the use of crops, trees, and their waste residues to manufacture industrial chemicals and related consumer goods. NAICS code designations do not represent the scope of the initiative. For purposes of understanding the Agriculture Industries of the Future focus -- any manufacturing, industrial or agricultural plant site or facility which is currently in the process of developing, designing, or demonstrating any new technology that addresses the above goals could be considered within the agriculture IOF topical area.

Aluminum:	3313	Alumina and Aluminum Production and Processing
Chemicals:	325	Chemical Manufacturing
Forest Products:	113	Forestry and Logging
	321	Wood Product Manufacturing
	322	Paper Manufacturing
Glass:	3272	Glass and Glass Product Manufacturing
Metal Casting:	33151	Ferrous Metal Foundries
	33152	Nonferrous Metal Foundries
Mining:	212	Mining (except Oil and Gas)
	213113	Support Activities for Coal Mining
	213114	Support Activities for Metal Mining
	213115	Support Activities for Nonmetallic Minerals (except Fuels)
	327992	Ground or Treated Mineral and Earth Manufacturing
	33141	Nonferrous Metal (Except Aluminum) Smelting and Refining
	331423	Secondary Smelting, Refining, and Allowing of Copper
	331492	Secondary Smelting, Refining, and Allowing of Nonferrous Metal (except copper and aluminum)
Petroleum:	32411	Petroleum Refineries
	324191	Petroleum Lubricating Oil and Grease Manufacturing
Steel:	331111	Iron and Steel Mills
	3312	Steel Product Manufacturing from Purchased Steel

6.3 BUILDING TECHNOLOGIES

6.31 BUILDING TECHNOLOGIES: CODES AND STANDARDS

Legislation: This Codes and Standards program is authorized under Title III of the Energy Conservation and Production Act, as amended. See Section 304(2)(B)(e), Availability of Incentive Funding (for States), under Section 304.

Estimated Funds Available:	$1,800,000
Estimated Number of Projects:	9 to 15, not to exceed $200,000 total Federal funds per State
Cost Share:	At least a 25% non-Federal cost share is required. For example, where the total cost of the project is $100,000, the Federal share would not exceed $75,000, and the grantee's cost share would be at least $25,000.

Background

Section 304 of the Energy Conservation and Production Act, as amended, requires States to update their commercial building energy codes to meet or exceed the American Society of Heating, Refrigerating and Air Conditioning Engineers and the Illuminating Engineering Society of North America (ASHRAE/IESNA) Standard 90.1-1989, or its successor(s) that DOE has determined would improve energy efficiency in commercial buildings. States are also required to consider whether to meet or exceed the 1992 Model Energy Code (MEC) or its successor(s) that DOE determined would improve energy efficiency in residential buildings. On January 4, 2001, the Department issued a determination that the 1998 and 2000 editions of the International Energy Conservation Code (IECC) will improve energy efficiency in residential buildings. Each state is required to certify to DOE by January 10, 2003, that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for a State to revise its residential building code to meet or exceed the 2000 IECC.

Projects Requested in 2002

The Office of Building Technology, State and Community Programs is providing incentive funding to support State actions to adopt, update, implement, enforce and evaluate the effectiveness of their residential and commercial building energy codes. These actions will enhance the energy efficiency of residential and commercial building stock in the United States. States that have adopted energy codes that meet or exceed the 1995 Model Energy Code and Standard 90.1-1989 and are encouraged to evaluate the effectiveness of their programs, refine them, and work toward the adoption of the next generation building codes, such as Standard 90.1-1999 or future editions of the International Energy Conservation Code (formerly the Model

Energy Code), that achieve even higher levels of cost-effective efficiency. States are encouraged to submit one year proposals and to partner with other States and interested entities to make maximum use of resources and share expertise. Letters of commitment from third parties must be attached.

Proposals

Each proposal must include a detailed description, a time line and a budget, itemized by task. Proposals should be formatted to make the following required items easy to locate and the evaluation criteria, related to those requirements, easy to apply. The proposal should be formatted in 12 point font and not exceed 10 pages in length, excluding the required forms. All pages must be numbered.

Proposals must include:

1. *Technical Narrative*. Address how the lead or coordinating agency intends to update their State and local building codes or if codes have already been adopted, how it intends to improve code compliance, through training, technical assistance, etc. Include the adoption process for energy codes at both the legislative and administrative level, as well as by the local building community. Fully describe the methodology for implementation of new energy codes including training and information transfer elements. Identify building community partners and their role in the process. Include government, local code officials, builders, architects, and energy technology suppliers, and utilities and environmental or other public interest allies, if appropriate. Identify the need for the project, desired outcome, results and benefits. Describe the steps to be taken to achieve the desired goals. In addition, all deliverables should be identified, such as training manuals, brochures, graphics, videos, etc. Indicate if these will be delivered in an electronic format and be reproducible.

2. *Workplan and Milestones*. Describe how the proposed project will be developed and implemented. Identify goals using measurable results and provide a schedule for completion. Identify facilities, equipment, personnel and other resources necessary for this project. Explain the relationship (if any) to any prior year grant received.

3. *Qualifications and Accomplishments*. Identify and describe lead agency, key personnel and other partners, including their qualifications, experience and expertise as it relates to successfully carrying out this project. If previous DOE grants to update, implement, or enforce the State's codes have been received, describe the progress and accomplishments to date in meeting the goals established for the previous grant(s).

4. *Innovative, Technology Transfer and Advanced Code Elements*. Describe any unique or innovative components of this project. Describe any components of the program that will expedite the adoption and implementation of improved energy codes in other States or regions or the transfer of information or techniques to other States or regions. Describe any components of

the program that will hasten the adoption of codes which exceed the requirements of ASHRAE 90.1-1989 or the 2000 International Energy Conservation Code (IECC)..

Special Conditions

The grantee is required to complete a final report and provide an annual presentation of its objectives and accomplishments of the project at the "Annual DOE National Workshop on State Building Energy Codes." The grantee must budget funds to attend the 2003 and 2004 National Workshops on State Building Energy Codes. The dates and locations of the 2003 and 2004 National Workshops on State Building Energy Codes will be announced at a later date.

Each State is required to submit a final report summarizing all work completed under this project. Include in the report the dates of significant events, number of people affected, number of training sessions, estimated energy savings, and other benefits of the project, and key products produced.

Evaluation Criteria

State proposals will be ranked according to the following criteria:

1. *APPROACH:* (35 points) Ability of the project to significantly contribute to the adoption, implementation, or enforcement of building energy codes which exceed Standard 90.1-1989 and the 2000 IECC, or to significantly contribute to the evaluation of building energy code implementation and enforcement.

2. *QUALIFICATIONS:* (25 points) Ability of the project team to complete the work successfully, including qualifications of key agencies and personnel. Experience and past success in adopting or updating, implementing, and evaluating building energy codes are key. Performance on prior year grants will be considered.

3. *POTENTIAL IMPACT:* (20 points) Anticipated benefit of project activities. The number and percentage of buildings (or square feet constructed) impacted and estimates of potential and quantifiable energy, economic, and environmental benefits. Estimated number and percentage of jurisdictions adopting/enforcing energy codes and the estimated number of people trained will also be considered. Long-term commitment of State and partners after Federal funding expires. The ability of the project to introduce innovation, transfer information/techniques to other States or regions resulting in wider adoption, implementation and enforcement of building energy codes, or introduce more advanced energy codes.

4. *COST SHARE:* (20 points) Cash or in-kind contribution over the required 25% cost share. If cost share is from an organization other than the applicant, letters of commitment must be attached to be considered.

Expenditure limitations

The purchase of land, buildings, vehicles, energy efficiency or renewable energy equipment; construction; capital improvements or equipment; or building retrofits are examples of expenditures that are not allowed.

Note: This is not an exhaustive list of what cannot be done under one of these grants; it is an attempt to point out major items that are not allowed.

Points of Contact

Headquarters (for technical information):		Margo Appel	(202) 586-9495
Regional Offices (for additional information):	Atlanta	Timothy Eastling	(404) 562-0575
	Boston	Daniel Strout	(617) 565-9707
	Chicago	John Devine	(312) 886-8581
	Denver	Doug Seiter	(303) 275-4810
	Philadelphia	Darren Stevenson	(215) 656-6970
	Seattle	Molly Dwyer	(206) 553-7837

6.32 BUILDING TECHNOLOGIES: REBUILD AMERICA

Legislation: Rebuild America activities are authorized under the Department of Energy Organization Act, P.L. 95-91.

Estimated Funds Available:	Up to $2,500,000
Estimated Number of Projects:	The number of proposals awarded will depend on the quality of the proposals received.
Funding Ceiling:	A $150,000 cap is placed on Federal funds awarded to successful individual State proposals. A cap of $100,000 per State will be placed on Federal funds for joint proposals (submitted by one State on behalf of other States). It is expected that awards of Federal funds will range from approximately $50,000 to $150,000 each.
Cost Share:	A 20% cost share is required, but a higher cost share is strongly encouraged. For example, where the total cost of the project is $100,000, the Federal share would not exceed $80,000, and the grantee's cost share would be at least $20,000. Please also see Sections below on General Guidance and Evaluation Criteria.

A. Background

Rebuild America began with the mission to accelerate energy efficiency improvements for existing commercial, institutional, and multifamily residential buildings through private-public partnerships created at the community level. While this focus remains its primary emphasis, Rebuild America's expanded vision and mission recognize that many Community Partnerships are seeking energy solutions to community needs that extend well beyond just building retrofits: many Community Partnerships are addressing issues related to new building construction and sustainability, land use planning, water and waste water treatment, transportation systems, and restructuring of electricity and natural gas markets.

Using a nationwide network of community leaders, energy experts, and providers of efficient products and services, Rebuild America helps Community Partnerships form, design, finance, promote, and carry out energy solutions that improve building performance. Rebuild America also serves as a gateway to link communities with resources and services to assist them in using

energy efficiency and renewable energy to address community-wide needs. DOE is an active member of each Community Partnership.

Rebuild America's Vision is one of communities across America that use energy efficiency and renewable energy to improve their lives at work, at home, and at play.

Rebuild America's Mission is to build partnerships among communities, states, and the private sector to improve building performance, and connect people, resources, ideas and practices for energy solutions to community needs.

Rebuild America has two Fundamental Goals:

I. Increase the number of high performance buildings, and
II. Help Community Partnerships implement community-wide energy efficiency and renewable energy improvements.

Major Objectives for Rebuild America include:

1. By 2005, Rebuild America partnerships will be involved collectively in at least 3 billion square feet of building renovations, increasing to at least 6 billion square feet by 2010;
2. By 2005, at least 500 buildings of diverse types within Rebuild America partnerships will have EnergyStar® labels, increasing to at least 1,000 labeled buildings by 2010;
3. By 2005, at least 50% of all partnerships will have completed a minimum of one major building renovation project, with this proportion growing to 75% by 2010;
4. By 2005, at least 50% of all partnerships will be involved in a range of energy efficiency and renewable energy activities extending well beyond building improvements, increasing to least 75% by 2010; and
5. By 2005, at least 25% of all partnerships will have self-sustaining community-wide programs, with this proportion increasing to 50% by 2010.

Major Results Expected	*By 2005*	*By 2010*
Energy Use Savings [Annual BTUs]	64 trillion	128 trillion
Total Cost Savings [Annual $]	$1 billion	$2 billion
Building Renovations [Total SF]	3 billion	6 billion
Private Investment Generated [Total $]	$4 billion	$8 billion

As part of Rebuild America's objectives regarding partnerships' completion of major building renovation projects, the program will place strong emphasis on and direct substantial resources to the K-12 schools sector. In coordination with its Energy Smart Schools Campaign, Rebuild America will target its efforts on school districts that are actively engaged in construction or rehabilitation cycles to assure at least 50% of all partnerships will be planning and carrying out improvements in K-12 schools between 2001 and 2010.

General information regarding Rebuild America may be found at the program Web site http://www.rebuild.org . More detailed information regarding Rebuild America's key issues,

strategies, goals, and objectives may be found in the document "Rebuild America Strategic Plan 2001-2010", available for downloading and viewing at:

http://www.eren.rebuild.org/attachments/programteam/rbaplan(1).pdf

B. Projects Requested in FY 2002

Through the mechanism of this competitive solicitation, Rebuild America seeks to identify and assist qualified end-use sector energy efficiency and renewable energy projects that will be developed and supported on a voluntary basis by interested State partners and that will further Rebuild America's ability to achieve the Goals and Objectives described in the "Rebuild America Strategic Plan 2001-2010".

Applications in response to this competitive solicitation may address any or all aspect(s) of Rebuild America's Vision, Mission, Situation and Key Issues, and may focus on any or all of Rebuild America's Goals and Objectives. Applications may propose the use of any relevant legal means, activities and procedures not otherwise prohibited by regulation or the provisions, requirements, prohibitions and limitations of this Announcement.

To a large degree, Rebuild America is a "people program". Historically, Rebuild America has worked on a voluntary basis with local organizations to develop comprehensive, sustainable, high performance solutions to "demand side" energy problems in five sectors: K-12 education, colleges and universities, state and local governments, multifamily housing, and commercial buildings. Through the mechanism of a Community Partnership, Rebuild America provides access to expertise, training, tools and public visibility, and creates a credible and effective platform for acquiring and leveraging resources from third parties.

DOE welcomes applications that represent robust, durable, transformative and transferable approaches to enhancing Rebuild America's ability to achieve its Goals and Objectives.

C. General Guidance

No more than one proposal per State may be submitted. Example: Two agencies in the same State may not submit separate proposals. This does not preclude a State from also participating in a joint proposal with other States.

Joint proposals, submitted by one State on behalf of other States, are acceptable. A cap of $100,000 per State is placed on the amount of Federal funds that can be awarded to successful joint proposals.

DOE reserves the right to fund partial proposals.

The mandatory cost-share is 20%; however, you are encouraged to provide a larger cost-share.

The cost share must be comprised of costs associated with the scope of the project being proposed. For example, if the scope of a proposed project involves the marketing of Rebuild America benefits to potential community based partnerships, the cost share (the applicant's contribution toward the project budget) cannot come from building efficiency investments made in other, existing partnerships. The cost share would have to be comprised of costs associated with the proposed marketing activity.

There are certain restrictions on what types of costs can be included as contributing to an applicant's cost share. If other (non-DOE) Federal funds are proposed, the agencies contributing those funds must provide letters stipulating that their Federal funds may be used in conjunction with DOE funds for the Federal share of the cost of a DOE financial assistance agreement.

While they cannot be used to satisfy the cost-share requirement, we encourage States to use their SEP formula grant funds to supplement Rebuild funds available through this section by reinforcing the funding and support for ongoing Rebuild activities in SEP formula grant State Plans, or initiating new ones, and continuing (or initiating) support of partnerships. Where a State wants to get credit for doing this in the context of its FY 2002 Special Projects application, evidence shall be demonstrated by attaching to the application a copy of the SEP formula grant State Plan language for the relevant Rebuild America activity.

If you are unclear regarding any aspect of the cost share requirement, you should check with your regional point of contact prior to submission of your Application.

All States and territories are eligible.

Period of Performance: Up to 2 years

D. Application Preparation

Applications must include the following mandatory minimum content regarding the proposed project:

I. A description of the rationale for the project. What is the opportunity?
II. A general description of the project. What types of activities, tasks, etc. will be conducted?
III. A description of the forecast outcomes of the project. What will be accomplished?
IV. A description of the people involved in the project, their roles, and their qualifications. Who will be doing what?
V. A description of the sources, uses and amounts of funds, and proposed supporting and logistical resources, required for the project. What will it take to get this done?
VI. A description of the proposed timing and schedule of activities, milestones, outcomes, and cash flows for the project. When will this be done?

VII. A description of the critical risks, potential problems & contingencies associated with the project and how they are or will be addressed. What problems are foreseeable, and how can they be addressed?

The Application must include the telephone (voice and/or TDD) and fax numbers and e-mail addresses for the director of the sponsoring State energy office, and for the individual within that office designated as the project director or manager.

E. Evaluation Criteria

Applications will be evaluated and ranked according to the following criteria:

Evaluation Criterion	*Maximum Criterion Point Score*
Relevance of Opportunity To Be Addressed By Project & Attractiveness of Forecast Project Outcomes By Reference To Rebuild America's Strategic Goals & Objectives	40
Relevance, Adequacy & Robustness Of Proposed Project Organization, Management & Staffing Strategy, And Overall Resource Levels	35
Quantity & Quality Of Non-Rebuild America Funding & Logistical Resources Dedicated To Project	25
All	100

F. Expenditure Limitations

EXAMPLES OF USES NOT ALLOWED: Purchases of land, buildings, vehicles, or energy efficiency or renewable energy equipment; payment of direct costs of construction; payments for capital improvements or equipment; payments for building retrofits.

Note: This is not an exhaustive list of what cannot be done under one of these grants; it is solely an attempt to point out major categories items that are not allowed. If you are unclear regarding any aspect of expenditure limitations requirements, prospective applicants are strongly urged to direct questions to your regional point of contact prior to submission of your Application.

G. Program Contacts:

Headquarters:	Dan Sze	(202) 586-2621
Regional Offices:		
Atlanta	Greg Andrews	(404) 562-0573
Boston	Greg Davoren	(617) 565-9706
Chicago	Carla Clemons	(312) 886-8587
Denver	Dave Waltzman	(303) 275-4821
Philadelphia	Susan Guard	(215) 656-6965
Seattle	Richard Putnam	(206) 553-2165

6.33 BUILDING TECHNOLOGIES: BUILDING AMERICA: Applying Building America's Strategies to Existing Buildings

Legislation: Building America activities are authorized under the Department of Energy Organization Act, P.L. 95-91.

Estimated Funds Available: $300,000

Estimated Number of Projects: Up to six

Funding Ceiling: The Federal share of the cost for any individual project will not exceed $100,000.

Cost Share: Cost share of 50% and up from non-DOE funds (State governments, regional organizations, industries, industry organizations, and other) is encouraged. For example, where a 50% cost share is proposed, and the total cost of the project is $50,000, the DOE share would not exceed $25,000, and the grantee's cost share would be at least $25,000. Extra consideration will be given for higher levels of cost sharing.

BACKGROUND

The United States Department of Energy (DOE) Building America Program is a continuing R&D process, cost-shared, in cooperation with the home construction industry, to develop system engineered, sustainable, innovative building methods, and cost-effective integration of technologies that can save builders and homeowners millions of dollars in construction and energy costs. Technical support and research implementation are provided by the National Renewable Energy Laboratory (NREL) and the Oak Ridge National Laboratory (ORNL).

The objective of the Building America Program is to apply systems engineering approaches to the development of advanced residential buildings, including production techniques, products, and technologies that result in higher quality, energy-efficient housing. The initial primary market sector for this effort has been new residential buildings that are single-family detached houses and attached town homes. In addition, for this Fiscal Year 2002 Request For Proposal, the Building America program also seeks cost-effective systems approaches to improve the energy performance of existing residential buildings.

The goals of the Building America Program include:

-Accelerate implementation of advanced building energy systems in new residential construction through development and application of systems engineering approaches with cross-cutting industry teams;

-Develop innovative technologies and strategies that enable the U.S. housing industry to deliver environmentally sensitive, quality housing on a community-scale while maintaining profitability and competitiveness of homebuilders and product suppliers.

-Deliver 50% reduction in energy consumption (on average, depending on climate), 50% reduction in construction site waste, 25% increase in use of recycled materials, increased labor productivity, and reduced construction cycle time.

-Develop cost effective methods of improving the energy performance of existing buildings by 30%.

The Building America Program advocates a systems engineering approach to home building and community improvement. Such a systems approach unites segments of the building industry that traditionally work independently of one another. It forms teams of architects, engineers, builders, equipment manufacturers, material suppliers, community planners, mortgage lenders, and contractor trades. Currently, there are five teams comprised of more than 250 different companies.

Names and principal contacts of each of the five Building America teams follow:

Building Science Consortium
Betsy Petit, Building Science Consortium, 70 Main Street Westford, MA 01866
(978) 589-5100 fax: (978) 589-5103 e-mail: Betsy@buildingscience.com
world wide web: www.eren.doe.gov/buildings/building_america/bsc.shtml

Consortium for Advanced Residential Buildings
Steven Winter, Consortium for Advanced Residential Buildings, 50 Washington Street, Norwalk CT 06854 (203) 852-0110 fax: (203) 852- 0741 e-mail swinter@snet.net
world wide web: www.carb-swa.com

Hickory Consortium
Mark Kelley, Hickory Consortium, 85 Depot Road, Harvard, MA 01451 (617) 491-1888
Fax: (617) 491-6004 e-mail: dragon@world.std.com world wide web:
www.eren.doe.gov/buildings/building_america/hickory.shtml

Integrated Building and Construction Solutions

Brad Oberg, IBACOS Consortium, 2214 Liberty Avenue, Pittsburgh, PA 15222 (412) 765-3664

Fax: (412) 765-3738 e-mail: boberg@ibacos.com world wide web: www.eren.doe.gov/buildings/building_america/ibacos.shtml

Industrialized Housing Partnership

Subrato Chandra, Florida Solar Energy Center, 1679 Clearlake Road, Cocoa, FL 32922 (321) 638-1412 fax: (321) 638-1439 e-mail: subrato@ucf.edu world wide web: www.baihp.org

The Building America teams work in 26 States to design cost-effective, energy-efficient single-family homes for each of the four major U.S. climate types. Builder partners have adopted Building America concepts to construct over 8000 new homes and many renovation projects. Results from homes tested for a year at Prairie Crossing in Grayslake, Illinois, confirm that their techniques allow for 50% to 60% energy savings over the regional standard construction practice at a small incremental cost over the builder's standard practice.

The program achieves its goals in new homes through an iterative systems engineering process to identify and implement successful cost/performance trade offs based on use of innovative systems that improve building performance without increasing cost.

Experience has proven that America's new homes can be cost-effective to build as well as energy-efficient to live in. Building America's systems engineering approach unites segments of the building industry that have traditionally worked independently of one another: By forming teams of architects, engineers, builders, equipment manufacturers, material suppliers, community planners, mortgage lenders, and contractor trades, new designs can be created, tested and analyzed that lead to continuing improvement in energy efficiency and other desirable attributes with little or no increase in first cost.

Most of the effort of the five Building America teams to date has been on new homes. However, all the teams are also involved in working with owners of existing buildings. Therefore, this Request For Proposal adds the category of existing buildings: The respondents may, if they wish, explain how, in cooperation with one or more of the five teams, they would get owners of existing buildings to make energy efficiency improvements of 30%; what those improvements would be; and how a particular package of improvements came to be selected.

Projects Requested in FY 2002

A new and additional goal of Building America SEP Special Projects in FY 2002 is to develop linkages between the States, the Building America teams and regionally-based innovative housing technology programs to develop cost effective and energy saving strategies for changing the existing home retrofit and repair market. The strategies will focus on typical repair and replacement events that occur throughout the life of a home. The strategies for improving the resource efficiency of existing housing may be disseminated through regionally-based fact sheets, case studies, builder handbooks and through web-based information exchange.

Strong State and regional support is essential for the success of these existing building projects. Under the Special Projects grants, working with DOE, the Building America Teams, NREL, ORNL, the State program representatives for Building America will be responsible for distribution of Building America program information, development of State case study materials, development of regional Building America workshops, and identification of State projects that may provide opportunities to serve as a test bed for industry team projects.

In order to successfully develop and expand the regional impacts of Building America existing building projects, proposals should include, but are not limited to, one or more of the following deliverables and activities:

- Develop an action plan that outlines how systems engineering retrofit strategies of existing homes can be expanded on a State by State basis.
- Provide engineering details of systems engineering retrofit strategies.
- Develop retrofit or replacement efficiency improvements that are applicable to types of homes well represented in the building stock of the particular region or state.
- Develop a dissemination plan to ensure widespread adoption that addresses financing options, contractor, installer or technician training and consumer motivation.
- Identify State projects that can act as showcases for the Building America Existing Building Technologies.
- Develop plans for State training programs to expand use of successful systems that improve the resource efficiency of existing housing.

Evaluation Criteria
Scoring

1. Past history of successful involvement with cost-shared industry partnership projects (10 points);

2. Understanding of building and retrofit industries needs and clear statement of project goals and objectives (10 points);

3. Demonstrated match of proposal focus with activities of one or more Building America industry teams (20 points);

4. Capabilities of proposal team including educational, State, industry and subcontractor personnel required to complete the work successfully (15 points);

5. Extent of building industry involvement in the proposal (15 points);

6. Viability of approach for achieving State and regional retrofit and new residential objectives (10 points);

7. Clearly stated deliverables and measures of success tied to goals of solicitation (10 points) and;
8. Level of cost sharing included in the proposal (10 points).

Expenditure Limitations: Funding under this project may not be used to cover the costs of building materials, construction or labor used in construction or renovation.

Program Contacts

Headquarters:		George James	(202) 586-9472
Regional Offices:	Atlanta:	Traci Leath	(404) 562-0570
	Boston:	Sapaleto Seymour	(617) 565-9704
	Chicago:	John Devine	(312) 886-8581
	Denver:	Jamey Evans	(303) 275-4813
	Philadelphia:	Susan Guard	(215) 656-6965
	Seattle:	Richard Putnam	(206) 553-2165

6.4 FEDERAL ENERGY MANAGEMENT PROGRAM (FEMP)

Estimated Funds Available:	Up to $500,000
Estimated Number of Projects:	The number and size of awards depends on the scope, quality, and competitiveness of the received proposals. Awards since FY 96 have ranged from $10,000 to $275,000
Cost Share:	Provision of funding from non-DOE sources is desired and will improve a proposal's competitiveness.

Background (http://www.eren.doe.gov/femp/aboutfemp.html)

The Federal Energy Management Program (FEMP) works to reduce the cost and environmental impact of government by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at Federal sites.

FEMP is the central government office responsible for providing leadership, coordination, technical guidance, assistance, and reporting on Federal energy management activities and progress toward these goals. With FEMP's combined financial, technical, outreach, and policy assistance, Federal agencies can effectively undertake smart energy projects and lead by example, as well as respond more quickly to urgent energy concerns, such as the electricity shortfalls experienced in California.

As the lead Federal agency in support of achievement of legislated Federal energy goals as well as related Executive Order objectives, FEMP's goals are derived from the goals established in the Energy Policy Act of 1992 and subsequent executive orders:

- Reduce Energy Consumption
  - Standard buildings/facilities: A reduction in gross square foot energy consumption by 30% by 2005 and 35% by 2010, relative to a 1985 base.
  - Industrial, laboratory, research, and other energy-intensive buildings: a 20% reduction by 2005, and 25% by 2010, relative to a 1990 base.
- Expand use of renewable energy
  - 2.5% of Federal facility electricity consumption by 2005
  - 2,000 solar roofs by 2000: 20,000 by 2010
- Implement best management practices for water conservation in 80% of Federal Facilities by 2010
- Reduce greenhouse gas emissions by 2010 compared to 1990

Major Program Areas

Project Financing (http://www.eren.doe.gov/femp/financealt)

Energy Savings Performance Contracts (ESPCs) allow Federal agencies to leverage private sector funds to implement energy improvements without relying on Congressional appropriations. With an ESPC, a non-utility energy service company (ESCO) arranges for the capital financing to develop projects. The ESCO guarantees that the upgrades, retrofits, and performance improvements will result in a specified level of savings. After the contract term ends, all additional cost savings accrue to the agency.

Federal facility managers face a number of new energy challenges - restructuring of electric utilities, volatile fuel prices and supplies, grid reliability, and mergers and acquisitions of utility providers. At the same time, Federal funding for energy improvement projects is limited. To deal with these challenges, FEMP is helping Federal agencies use Utility Energy Service Contracts (UESCs) to finance energy and water efficiency upgrades. Since 1995, 45 utilities from around the country have invested over $600 million in UESC projects that are now paying for themselves from a share of energy cost savings.

Technical Assistance (http://www.eren.doe.gov/femp/techassist)

Technical assistance, training, and information are at the heart of FEMP's mission. FEMP provides a comprehensive approach to help Federal agencies increase energy efficiency, expand the use of renewable energy, conserve water, and ensure reliable power. FEMP assists energy managers in identifying energy-efficient and cost-effective products and opportunities. FEMP also helps federal managers design and implement effective facility improvement projects that incorporate energy efficiency, renewable energy, distributed energy technologies, sustainable design practices, state-of-the-art lighting technologies, and water-saving techniques.

Policy

FEMP develops and disseminates policy guidance to assist Federal agencies in meeting legislative and Executive Order energy management requirements. FEMP also manages a number of committees to facilitate interagency coordination and inform energy management efforts.

Outreach

FEMP spreads the word about energy efficiency, renewable energy, and water saving strategies through a wide variety of publications, on-line resources, recognition and award programs, and conferences.

Special funding requirements or limitations

States are encouraged to obtain matching and/or in-kind resources for their proposals.

FEMP funds shall not be used for the purchase of land, buildings, and vehicles.

Instructions for Proposals

Projects **must** relate to one or more FEMP programs and/or priorities, and target at least one Federal facility. Each proposal should be formatted so that the evaluation criteria is easily applied, and include a detailed narrative, work plan, milestones, and budget. Letters of support are encouraged. Applicants are encouraged to submit proposals that promote and facilitate:

- sustainable design and construction
- energy efficient operations and maintenance
- building measurement, verification and commissioning
- distributed and renewable energy
- renewable power purchases
- renewable technologies and the siting of renewable power on Federal sites
- biomass, geothermal, distributed energy, combined heat & power technologies
- assessment of load and energy reduction techniques - especially in resource constrained areas
- enhanced use of energy-efficient procurement and bulk purchase guidelines/specifications
- incorporation of energy reliability and security plans
- coordination and integration of Federal, State, and local government efforts in cost-effective energy, utility, security, procurement, and communication activities
- Federal/state/local outreach on any of the above

Evaluation Criteria

•	How well and clearly the proposal supports FEMP mission and priorities.	30
•	Overall merit, impact and significance of benefits of the proposed activities.	20
•	Clearly stated objectives, measures of success, deliverables, schedules.	10
•	Viability of approach; probability of successful project completion.	10
•	Capabilities and dedication of proposer's team (State staff and partners) as shown by education, experience and/or past performance.	20
•	Level of cost-sharing partnerships.	10

Program Contacts

FEMP Representative at HQ: Beverly Dyer 202-586-7241 **beverly.dyer@ee.doe.gov**

FEMP Representatives at the Regional Offices:

Atlanta:	Lisa Hollingsworth	(404) 562-0569	lisa.hollingsworth@ee.doe.gov
Boston:	Paul King	(617) 565-9712	paul.king@ee.doe.gov
Chicago:	Sharon Gill	(312) 886-8573	sharon.gill@ee.doe.gov
Denver:	Randy Jones	(303) 275-4814	randy.jones@ee.doe.gov
Philadelphia:	Claudia Marchione	(215) 656-6967	claudia.marchione@ee.doe.gov
Seattle:	Arun Jhaveri	(206) 553-2152	arun.jhaveri@ee.doe.gov

6.5 POWER TECHNOLOGIES

6.51 POWER TECHNOLOGIES: UNINTERRUPTED POWER SOURCE (UPS)

Estimated Funds Available:	$200,000 - FY2002 ($800,000 for multi-years)
Estimated Number of Projects:	2 (NTE $200,000 per year per awardee)
Anticipated Project Period:	2 years
Cost Share:	At least a 50% non-Federal cost share is required. For example, where the total cost of the project is $100,000, the Federal share would not exceed $50,000, and the awardee's cost share would be at least $50,000.
Cooperative Agreements/ Incremental Funding:	Financial assistance resulting from this section of the 2002 Special Projects Announcement will be in the form of cooperative agreements. Projects will be incrementally funded based on quarterly estimates provided by recipients in their budgets.

Background:

The Hydrogen Program works with U.S. industry to develop hydrogen technologies which will improve our nation's energy security, reduce greenhouse gas emissions, and create business opportunities for U.S. industry. The Program is directed by the Hydrogen Future Act of 1996, (Pub. L. 104-271), which requires the Department to ensure that research and development activities to bring hydrogen systems into the marketplace.

Due to the concern for grid reliability coupled with society's reliance on a digital infrastructure, there is a growing need for uninterruptible power sources (UPS) and technology enabling peak shaving for operation less than 240 hours per year. Distributed generation sites utilizing hydrogen fuel cells have the potential to fill this niche market. The intention of these cooperative agreements would be to fund a fuel cell 1-5 kilowatts in size with a storage capacity of 50 hours.

The Department seeks to engage in collaborative efforts with the States and the territories in the siting and operation of such systems to better understand the performance, maintenance, operation and economic viability of these systems.

Objective

Cooperative agreements are available for the testing and evaluation of fuel cells of approximately 1-5 kilowatts to provide power as an uninterruptible source and/or as a peak shaving plant. This system should be capable of beginning operation instantaneously during a blackout or grid power

interruption. The system should be capable of maintaining digital equipment with continuous electrical supply. The systems' safety considerations and operational performance are an important part of the evaluation process.

Evaluation Criteria

State proposals will be ranked according to the following criteria:

- Technical documentation that relates to achieving fuel cell systems which are suitable for UPS applications as described above and which can meet future cost targets for 1-5 kilowatt fuel cells at 10,000 units per year as a competitive uninterruptible power source or peak shaver. The discussion should include design considerations for a range of loading times.(25 points).

- Knowledge of building code requirements. (15 points)

- Technical quality of plans for system design, operation and maintenance, and safety.(30 points).

- Market assessments, business plans and development of educational material (15 points).

- Cost sharing above 50% and costs of 2nd and 3rd units (15 points).

Program Contacts

Headquarters:	Wash, DC	Christopher Bordeaux	(202) 586-3070
Regional Offices:	Atlanta	Dwight Bailey	(404) 562-0564
	Boston	Michael Scarpino	(617) 565-9716
	Chicago	Mark Burger	(312) 886-8583
	Denver	Gibson Asuquo	(303) 275-4841
	Philadelphia	Maryanne Daniel	(215) 656-6964
	Seattle	Roxanne Dempsey	(206) 553-2155

6.52 POWER TECHNOLOGIES: POWER PARK

Estimated Funds Available:	$450,000 - FY2002 ($3,000,000 for multi-years)
Estimated Number of Projects:	1-3
Anticipated Project Period:	3 years
Cost Share:	At least a 50% non-Federal cost share is required. For example, where the total cost of the project is $100,000, the Federal share would not exceed $50,000, and the awardee's cost share would be at least $50,000.
Cooperative Agreements/ Incremental Funding:	Financial assistance resulting from this section of the 2002 Special Projects Announcement will be in the form of cooperative agreements. Projects will be incrementally funded based on quarterly estimates provided by recipients in their budgets.

Background:

The Hydrogen Program works with U.S. industry to develop hydrogen technologies which will improve our nation's energy security, reduce greenhouse gas emissions, and create business opportunities for U.S. industry. The Program is directed by the Hydrogen Future Act of 1996, (Pub. L. 104-271), which requires the Department to ensure that research and development activities to bring hydrogen systems into the marketplace.

Distributed power generation is increasingly viewed as an important component of the future electrical energy supply in the United States. As hydrogen technologies become competitive with conventional energy technologies, the hydrogen power park concept is an important step toward viability. The hydrogen 'power park' concept is anticipated to contribute to the mid-term (from 5-10 years in the future) and long-term use of hydrogen as an energy carrier. The power park begins with natural gas reforming, municipal solid waste reforming, or renewable electricity such as hydro power, wind, geothermal or solar for the generation of electricity and hydrogen to be stored. The purpose of this project is to determine if the power park concept of hydrogen production from natural gas or municipal solid waste reforming (continental U.S.) or renewable resources for islands, villages, and remote areas is economically viable as a clean technology that can co-produce hydrogen fuel for hydrogen fuel cell cars.

The Department is particularly interested in the relevant codes, safety standards and engineering data that would be required to construct a power park. The Department seeks to engage in collaborative efforts with the states and the territories in the siting and operation of such systems to better understand the performance, maintenance, operation and economic viability of these systems.

Objective:
Demonstrate a power park that uses hydrogen as an energy carrier, where an electrolyzer would supply hydrogen for islands, villages or remote areas using electricity (from renewable energy power sources such as hydropower, wind, or geothermal), or natural gas would supply hydrogen in the continental U.S. The hydrogen would then be used in a 25-75 kW fuel cell or an environmentally acceptable hydrogen or hydrogen/natural gas internal combustion engine (ICE) to generate electricity which would power a building complex or industrial facility. On off peak hours the electrolyzer could also produce hydrogen and store it for use in automobiles equipped with fuel cells or hydrogen internal combustion engines. The envisioned facility would be capable of providing electric power and heat to a building complex or industrial facility by means a fuel cell or ICE and delivered hydrogen compressed and stored for fueling of vehicles.

This project could also analyze the system design of fuel cells for the power park versus the automobile fuel cells to determine the design differences and life cycle cost of the automotive fuel cell system. Explanation of the differences should also examine the mission of the automotive fuel cells as uninterruptible power sources (UPS) or peaking power sources (e.g., 1 hour per day).

The Department is particularly interested in the cost benefit analysis vis a vis pollution non attainment areas and the economic incentives to meet attainment goals.

Evaluation Criteria

State proposals will be ranked according to the following criteria:

- Technical documentation that relates to future cost targets for fuel cells or hydrogen ICE systems that are competitive with future distributed energy generation applications with consideration to non-attainment areas (35 points).

- Technical quality of plans for system design, operation, maintenance and safety performance in relation to building codes and standards (35 points).

- Market assessments, business plans and development of educational materials (15 points).

- Cost sharing above 50% (10 points).

- Analysis of design differences for a regenerative fuel cell system (25 and 75 kW) between stationary plant and automotive fuel cells (5 points).

Program Contacts

Headquarters:	Wash, DC	Christopher Bordeaux	(202) 586-3070
Regional Offices:	Atlanta	Dwight Bailey	(404) 562-0564
	Boston	Michael Scarpino	(617) 565-9716
	Chicago	James Piepmeier	(312) 886-8583
	Denver	Gibson Asuquo	(303) 275-4841
	Philadelphia	Maryanne Daniel	(215) 656-6964
	Seattle	Roxanne Dempsey	(206) 553-2155

6.53 POWER TECHNOLOGIES: COMPRESSORS, STORAGE AND DISPENSERS

Estimated Funds Available:	$350,000 - FY2002 ($1,500,000 for multi-years)
Estimated Number of Projects:	2-3
Anticipated Project Period:	2 years
Cost Share:	At least a 50% non-Federal cost share is required. For example, where the total cost of the project is $100,000, the Federal share would not exceed $50,000, and the awardee's cost share would be at least $50,000.
Cooperative Agreements/ Incremental Funding:	Financial assistance resulting from this section of the 2002 Special Projects Announcement will be in the form of cooperative agreements. Projects will be incrementally funded based on quarterly estimates provided by recipients in their budgets.

Background:

The Hydrogen Program works with U.S. industry to develop hydrogen technologies which will improve our nation's energy security, reduce greenhouse gas emissions, and create business opportunities for U.S. industry. The Program is directed by the Hydrogen Future Act of 1996, (Pub. L. 104-271), which requires the Department to ensure that research and development activities to bring hydrogen systems into the marketplace.

The interface between a hydrogen generation system and the storage and delivery mechanism needs to be demonstrated to collect valuable experience for safety considerations and public education purposes. Such an integrated system would fill fuel cell or internal combustion engine vehicles, (for example 3 buses or 10 to 30 automobiles) at a facility where operation and maintenance can be monitored and recorded. Cascaded tanks should be given consideration.

The Department seeks to engage in collaborative efforts with the states and the territories in the siting and operation of such systems to better understand the performance, maintenance, operation and economic viability of these systems.

Objective:

Test the ability of a hydrogen generation system to fill busses and or light and heavy duty vehicle storage tanks. The system shall include a compressor from a Pressure Swing Absorption (PSA)

unit from a reformer with hydrogen gas at 250 psi, to a set of storage tanks and compressors that are capable of refueling up to 3 buses with 40 kg of hydrogen each at 5,000 psi. The dispenser shall be able to fill each bus in 15 minutes or each automobile in 3-5 minutes and be user friendly.

Evaluation Criteria

State proposals will be ranked according to the following criteria:

- Technical documentation as it relates to the design to achieve compressor technology as described. The discussion should include efficiency paralytic power and partial load consideration.(20 points).

- Technical quality of plans for system design, operation, maintenance, and safety performance (35 points).

- A design rationale that properly balances capital cost versus operating cost to fill 3 buses per day (20 points).

- Market assessments, business plans and development of educational materials (10 points).

- Cost sharing above 50% (10 points).

- Previously demonstrated compressor technology (5 points)

Program Contacts

Headquarters:		Christopher Bordeaux	(202) 586-3070
Regional Offices:	Atlanta	Dwight Bailey	(404) 562-0564
	Boston	Michael Scarpino	(617) 565-9716
	Chicago	James Piepmeier	(312) 886-8583
	Denver	Gibson Asuquo	(303) 275-4841
	Philadelphia	Maryanne Daniel	(215) 656-6964
	Seattle	Roxanne Dempsey	(206) 553-2155

6.54 POWER TECHNOLOGIES: SOLAR POWERED SECURITY

Estimated Funds Available:	$200,000
Estimated Number of Projects:	Up to 4
Geographical Limitation:	None
Cost Share:	At least a 50% non-Federal cost share is encouraged.
Funding Ceiling:	The Federal share of the cost of a project shall not exceed $100,000.

Background:

Sensors and controls have become a very important and timely technology in our war against terrorism today. Sensing and early detection of security penetration is now an utmost priority in every facet of our daily lives. Photovoltaics (PV), by its very nature, can add unlimited versatility to such protection and must be included in this project. Application should focus on protecting and safeguarding our power delivery infrastructure.

Projects Requested in 2002

Under this category, grants are available to focus on developing PV-powered application hardware for protecting our power delivery systems (e.g. pipelines, and national grid). Selection of technical protection methodology is not narrowed to a specific area of application and is open for proposer's suggestion. The protective devices should be integratable and function as a system deployment with full inter/intra communication capabilities.

Evaluation Criteria:

1. Partnerships with utilities are encouraged in order to ensure their buy-in into the technology. (20 pts)

2. Experience of the project team, including knowledge of sensors, controls and photovoltaics. (20 pts)

3. Opportunity for replication: projects that can be readily replicated nationwide.(20 pts)

4. Security benefits: projects should address the national impacts resulting from integrated technology deployments (40 pts)

Points of Contact:

Headquarters:	Dan Ton Office of Solar Energy Technology		(202) 586-4618
Regional Offices:	Atlanta:	Dwight Bailey	(404) 562-0564
	Boston:	Richard Michaud	(617) 565-9713
	Chicago:	Bill Hui	(312) 886-8586
	Denver:	Steve Sargent	(303) 275-4820
	Philadelphia:	Susan Guard	(215) 656-6965
	Seattle:	Heather Mulligan	(206) 553-7693

6.55 POWER TECHNOLOGIES: SOLAR SCHOOLS DEMONSTRATION and EDUCATIONAL OUTREACH

Estimated Funds Available:	$300,000
Estimated Number of Projects:	Up to 6
Geographical Limitation:	None
Cost Share:	At least a 50% non-Federal cost share is required.
Funding Ceiling:	The Federal share of the cost of a project shall not exceed $100,000.

Background:

There are hundreds of schools with solar energy systems (usually solar hot water systems or solar electricity in the form of photovoltaics) all across the country. Some of these systems are visible and are used as teaching tools and incorporated into the curriculum. More of them are less visible, quietly generating hot water or electricity for the school, unnoticed by the students and staff.

Projects Requested in 2002

Under this category, grants are available for "Schools Going Solar" by incorporating new solar energy generation into their schools energy mix and incorporating learning about solar and renewables into the curriculum in the State. States are encouraged to coordinate with the Million Solar Roofs partnership(s) and the electric utilities in their State and visit the schools going solar (**www.schoolsgoingsolar.org)** website to learn what teaching tools others have already developed.

Evaluation Criteria:

- Demonstrated partnership with State and/or local Million Solar Roofs partnerships, local solar installers, utility, university, or state research center. (30%)
- Demonstration of incorporation of lessons learned and tools developed during prior projects into project planning. (30%)
- Opportunity for replication: solar outreach program designs that can be readily replicated statewide, regionally or nationwide. (20%)
- Feasibility of the project, relevance of the project objectives, and a reasonable method outlined to objectively measure the results of the project. (20%)

Points of Contact:

Headquarters:	Lynne Gillette Office of Solar Energy Technology		(202) 586-1495
Regional Offices:	Atlanta:	Dwight Bailey	(404) 562-0564
	Boston:	Richard Michaud	(617) 565-9713
	Chicago:	Bill Hui	(312) 886-8586
	Denver:	Steve Sargent	(303) 275-4820
	Philadelphia:	Susan Guard	(215) 656-6965
	Seattle:	Heather Mulligan	(206) 553-7693

6.56 POWER TECHNOLOGIES: ZERO ENERGY HOMES

Estimated Funds Available:	$200,000
Estimated Number of Projects	Up to 4
Geographical Limitation	None
Cost Share:	At least a 50% non-Federal cost share is required.
Funding Ceiling:	The Federal share of the cost of a project shall not exceed $100,000

Background

The Office of Solar Energy Technology works with designers and homebuilders to introduce the Zero Energy Home (ZEH) concept to the new home construction industry and to meet the State or local commitments to the Million Solar Roofs initiative. The goal of the Zero Energy Home program is to optimize high performance energy-efficient buildings, appliances, advanced controls, and renewable energy technologies to build a new generation of cost-effective buildings that have a zero net need for offsite energy by 2010. Today's marketable Zero Energy Homes will more than cut the annual utility bill by 50 percent and include solar electric, passive solar, and solar water heaters.

The National Renewable Energy Laboratory (NREL) has selected four Zero Energy Teams, which are assisting production homebuilders to design and build marketable Zero Energy Homes. In addition, many States now provide net metering, renewable portfolio standards, or solar tax credits that may assist in developing a ZEH project.

Projects Requested in 2002

Under this category, grants are available to design, build and showcase one or more currently marketable Zero Energy Homes in conjunction with a local homebuilder, and/or local homebuilder association, university, utility, Million Solar Roofs partnership, State research center; develop regional designs and/or provide design assistance for Zero Energy Homes; provide State outreach activities on ZEH projects designed for production builders; or provide ZEH outreach or technical assistance at regional or national homebuilder meetings.

States and builders should consider best practices in energy efficient home design combined with passive solar, solar water heaters and solar electric. These Zero Energy Homes would be expected to reduce utility bills by at least 50 percent of the local norm.

Evaluation Criteria:

1. Partnership with Million Solar Roofs partnership, homebuilder(s), homebuilder association, utility, university, or state research center. (30%)

2. Partnership with NREL Zero Energy Home design team or experience of project team, including knowledge of energy efficient building practices and solar designs. (30%)

3. Opportunity for replication: designs that can be readily replicated statewide, regionally or nationwide. (20%)

4. Projected percent energy savings vs standard building code requirements. (20%)

Points of Contact:

Headquarters:		Glenn Strahs Office of Solar Energy Technology	(202) 586-2305
Regional Offices:	Atlanta:	Dwight Bailey	(404) 562-0564
	Boston:	Richard Michaud	(617) 565-9713
	Chicago:	Bill Hui	(312) 886-8586
	Denver:	Steve Sargent	(303) 275-4820
	Philadelphia:	Susan Guard	(215) 656-6965
	Seattle:	Heather Mulligan	(206) 553-7693

6.57 POWER TECHNOLOGIES: MILLION SOLAR ROOFS INITIATIVE: SMALL GRANT PROGRAM FOR STATE PARTNERSHIPS

Estimated Funds Available:	$500,000
Estimated Number of Projects:	Up to 15
Geographical Limitation:	None
Cost Share:	Cost share is encouraged, but not required.
Funding Ceiling:	The Federal share of the cost of a project shall not exceed $50,000.

Background:

In this section DOE, is soliciting Applications for Million Solar Roofs Initiative State Partnerships. The goal of DOE through this Solicitation is to assist Million Solar Roofs Initiative (MSR) State Partnerships in developing and implementing programs to further the use of solar energy on buildings. DOE intends to provide financial support to identified Partnerships to eliminate barriers and implement programs to further the use of solar energy systems on buildings under provisions of the Solar Photovoltaic Energy Research, Development, and Demonstration Act of 1978, as amended, and the Energy Policy Act of 1992 (EPAct): Public Law 102-486. This is not a solicitation for research, development or demonstration.

DOE will only consider proposals from interested State Partnerships to help fund their MSR program development and implementation activities.

[Note: Million Solar Roofs Local Partnerships are invited to submit proposals to DOE SOLICITATION NUMBER DE-PS36-02GO92005 - see **http://e-center.doe.gov/** for details.**]**

The Department of Energy's MSR Initiative is an initiative to support State and Local Partnerships that agree to install solar energy systems on one million buildings in the United States (U.S.) by 2010. This effort includes two types of solar energy technology: 1) solar electric (photovoltaic) systems that produce electricity from sunlight, and 2) solar thermal systems panels that produce heat for domestic hot water, for space heating or for heating swimming pools.

The overall goal of this solicitation is to assist State Partnerships in contributing to the installation of one million solar energy systems on U.S. rooftops by the year 2010. These Partnerships bring together business, government and community organizations at the regional level with a commitment to install a pre-determined number (at least 500) of solar energy systems.

There were fifty-seven such existing partnerships under the MSR Initiative, as of October 1, 2001. They received their MSR Partnership designation by writing a letter of commitment to DOE with their goal for actual installations by 2010. In return, DOE provides access to: training and technical assistance from DOE; recognition, outreach tools, support; and opportunities to interface with other partnerships, solar energy businesses, associations and related industries that can provide assistance (via national and regional Million Solar Roofs meetings). New MSR Partnerships can declare their intent to join the Initiative by including such a letter with their application for this solicitation. A complete description of partnerships

and their representative activities can be found in Appendix A and on the MSR website at http://www.MillionSolarRoofs.org

The DOE Regional Offices will manage the resultant projects. (Refer to Appendix B). DOE intends to allocate a portion of total available funding to each of the six DOE regions based on a formula that considers number of applications, and a balanced regional distribution.

The project or activity must be conducted in a designated MSR State Partnership area. Each partnership may submit only one application. There is no cost sharing requirement for these grants, although cost sharing will be one of the criteria considered.

Projects Requested in 2002

Proposals under this solicitation must further the work of State Partnerships, including partners in the building industry, state and local governments, utilities, the solar energy industry, financial institutions and non-governmental organizations, to remove market barriers to solar energy use and to develop and strengthen local demand for solar energy products and applications.

Successful applications shall demonstrate the potential for catalyzing market demand in local areas through the elimination of market barriers to the use of solar energy systems. Applicants shall have established or formed State Partnerships to conduct their MSR program development and implementation activities. Viability of the partnership to eliminate market barriers for the use of solar energy systems on buildings will be a major factor in selecting projects for award under this solicitation. Applicants should propose a viable plan for addressing barriers, which inhibit local market penetration and a strategy for strengthening local demand for solar energy products and applications. For Applicants to become an MSR Partnership and be considered for award under this solicitation, they must possess the capabilities and resources to install a minimum of 500 solar energy systems by 2010.

There are two types of grants available. Phase 1 - New Partnership grants and Phase 2 - Meeting the Commitment grants. Only one application may be submitted per partnership in one or the other of the categories, but not both. Partnerships that have been awarded prior MSR partnership grants in the past may not apply for a Phase 1 - New Partnership grant. Newly formed or existing partnerships that have not received prior MSR grants may apply for a Phase 1 - New Partnership grant. Any partnership with the prerequisites may apply for a Phase 2 - Meeting the Commitment grant.

Funds from this solicitation may not be used to purchase solar energy systems hardware.

Under either type of grant, if an Applicant plans to enter into a relationship with a DOE National Laboratory, the work scope must be identified as a separate task on the Statement of Work and related cost must be specifically identified in the budget (refer to Section II.M).

Phase 1 - New Partnership Grant

Each collaborative project shall involve, as a minimum, the development and implementation of a strategy for addressing barriers, which inhibit local market penetration, and development of an implementation plan for the installation of solar energy technology in their local communities.

During the grant period, each Partnership awarded a grant will develop and/or complete an implementation plan for solar energy installations under the MSR Initiative and will implement a process to track solar energy systems installed. The implementation plan will outline the process they will follow to meet their

pre-determined goals for solar energy installations in their community. The implementation plan might include steps that must be taken to remove existing barriers, educate citizens, establish a supporting infrastructure, etc. The implementation plan will be the final product of the Phase 1 grants.

The following noncomprehensive list provides examples of types of activities a Partnership may consider including in their application for a new grant:

1) Address the Localized Barriers to Solar Energy Applications
Barriers can include restrictive codes and standards, lack of public awareness and education, prohibitive interconnection standards applied by energy service providers, lack of adequate financing options, and more. A community may choose to address one, or any combination of these issues depending on their local situation.

2) Develop Education or Outreach Tools
Some partnerships find that in order to get broad based community support, they need education and or outreach tools or materials that don't currently exist. A partnership may choose to develop new tools (such as working solar house models, displays, interactive exhibits, websites, publications, videos, media packets) in order to meet Partnership objectives.

3) Develop And/Or Modify Codes and Covenants That Affect Solar Energy Installations
Many communities or developments have adopted restrictions that make it difficult or impossible for a homeowner to install solar energy systems on their roof. A partnership may choose to work with community groups, local governments, and/or developers to address these unnecessary restrictions.

4) Outreach or Training for the Building Community
Providing information and education on the solar energy technologies, and how efficiency measures enhance the use of solar making it possible for buildings to be zero (net) consumers of externally supplied energy, can be an effective way to earn the support of building related businesses and officials. A partnership may identify one or more groups of professionals as a priority for training and education.

Phase 2 - Meeting the Commitment Grant

The following list of prerequisites for Phase 2 grants must be provided with the application:

1) Completed Implementation Plan;
2) Description of the process for tracking solar energy systems installed in the partnership area;
3) Recent accounting of the number of systems installed in the partnership area by year, system type and size; and
4) Copy of all past partnership summary reports submitted to the project manager in the DOE Regional Office.

The focus for Phase 2 grants is on driving progress toward installation goals. During the grant period, each Partnership awarded a grant will implement a set of activities specifically designed to stimulate increases in solar installations in their area. The case should be made in the application that the project would increase the number of solar installations. A concrete method or process for measuring the success or results of the activity should be fully described in the application. The final product of the Phase 2 grants will be an implementation report describing the activities and assessing the degree of success. This report will include an accounting of the number of systems by year, system type and size at the end of the grant period.

The following noncomprehensive list provides examples of types of activities a Partnership may consider including in their application for either type of grant:

1) Address the Localized Barriers to Solar Energy Applications

Barriers can include restrictive codes and standards, lack of public awareness and education, prohibitive interconnection standards applied by energy service providers, lack of adequate financing options, and more. A community may choose to address one, or any combination of these issues depending on their local situation.

2) Support Net Metering for Photovoltaics (PV)

Net metering improves the economics of PV generation by allowing customers to capture the retail value of electricity for most or all of their PV generation. It is already an option in many states. States and communities might identify implementation of net metering as a critical issue to address in order to improve the economics of PV in their area.

3) Develop Education or Outreach Tools

Some partnerships find that in order to get broad based community support, they need education and or outreach tools or materials that don't currently exist. A partnership may choose to develop new tools (such as working solar house models, displays, interactive exhibits, websites, publications, videos, media packets) in order to meet Partnership objectives.

4) Develop And/Or Modify Codes and Covenants That Affect Solar Energy Installations

Many communities or developments have adopted restrictions that make it difficult or impossible for a homeowner to install solar energy systems on their roof. A partnership may choose to work with community groups, local governments, and/or developers to address these unnecessary restrictions.

5) Outreach or Training for the Building Community

Providing information and education on the solar energy technologies, and how efficiency measures enhance the use of solar making it possible for buildings to be zero (net) consumers of externally supplied energy, can be an effective way to earn the support of building related businesses and officials. A partnership may identify one or more groups of professionals as a priority for training and education.

6) Local Zero or Near Zero Energy Home or Building Initiative

Partnerships in communities experiencing high rates of growth may wish to focus on encouraging local builders to offer a zero or near zero energy homes or buildings to their customers. The combination of energy efficient building design (including passive solar design), lighting, appliances, insulation with solar energy systems for electricity, heat and hot water, leads to a home or building that on average uses little or no more energy than the home generated for its own use.

Special Eligibility Requirements
Eligibility for award of a MSR/SEP Special Projects grant is restricted to MSR State Partnerships recognized as such by the U.S. Department of Energy at the time of submission of application. A description of these partnerships and the process for receiving DOE recognition is included in Appendix A. Applicants who are currently not recognized as a MSR State and Community Partnership must attach a letter to the Application in accordance with Attachment A in order to be considered for evaluation. All applicants submitting letters that meet the minimum requirements in Appendix A to establish partnerships will be reviewed by DOE to determine eligibility to receive an award.

Evaluation Criteria:

Phase 1 - New Partnership grants: The following is a listing of the factors which will be considered in evaluation and award of Phase 1 - New Partnership grants.

Criteria 1: Relevance to the Million Solar Roofs Initiative Objectives Weight 20%

Evaluation of this section will be based on the relevance of the proposed project: 1) to meet the community's stated MSR goal, and 2) to meet the overall objectives and development of MSR nationwide.

Criteria 2: Evidence of Million Solar Roofs Leadership and Commitment and Public Participation Weight 30%

Evaluation of this section will be based on the: 1) evidence of strong leadership, public involvement and community commitment, 2) level of participation and commitments by project partners, and 3) extent of integration with other DOE and other Federal agency community activities.

Criteria 3: Applicant and Participant Roles, Capabilities and Organization Weight 30%

Evaluation of this section will be based on: 1) adequacy of the project management plan, with respect to proposed tasks and organizational structure, to achieve project objectives; 2) capabilities of the Applicant and Participants to comprehensively address all aspects of proposed project; 3) adequacy of resources to accommodate the proposed project; and 4) qualifications and experience of key personnel.

Criteria 4: Statement of Work Weight 20%

Evaluation of this section will be based on: 1) adequacy and completeness of the Statement of Work, and 2) adequacy of the information presented for achieving project objectives through realistic milestones and logical task structure.

Phase 2 - Meeting the Commitment grants: The following is a listing of the factors, which will be considered in evaluation and award of Phase 2 Partnership grants.

Criteria 1: Existing Implementation Plan Quality and Relevance to the Million Solar Roofs Initiative Objectives Weight 20%

Evaluation of this section will be based on the quality and relevance of the Partnership implementation plan completed prior to application for this grant. Quality will be judged by the following criteria: clarity, completeness, adequacy of the planned activities to meet the community's stated MSR goal, and to meet the overall objectives and development of MSR nationwide.

Criteria 2: Evidence of Million Solar Roofs Leadership and Commitment and Public Participation — Weight 10%

Evaluation of this section will be based on the: 1) evidence of strong leadership, public involvement and community commitment, 2) level of participation and commitments by project partners, and 3) extent of integration (and familiarity) with other DOE and other Federal agency community activities.

Criteria 3: Potential to Benefit Other Million Solar Roofs Partnerships — Weight 10%

Evaluation of this section will be based on the 1) extent to which future Partnerships can learn from and model their actions after the community, and 2) quality of the project plan section outlining how results of the project will be shared with other partnerships.

Criteria 4: Potential Benefits and Plan for Measuring Benefits — Weight 30%

Evaluation of this section will be based on: 1) the quality of the plan for measuring and evaluating success of the project, 2) the potential for the project to lead to additional solar energy system installations, and 3) the likelihood that project will be successful.

Criteria 5: Applicant and Participant Roles, Capabilities, Performance and Organization — Weight 10%

Evaluation of this section will be based on: 1) adequacy of the project management plan, with respect to proposed tasks and organizational structure, to achieve project objectives; 2) capabilities of the Applicant and Participants to comprehensively address all aspects of proposed project; 3) adequacy of resources to accommodate the proposed project; 4) qualifications and experience of key personnel, and 5) evidence of past MSR grant performance (prior summary reports submitted to the Regional Million Solar Roofs Program Manager would suffice as evidence.)

Criteria 6: Statement of Work — Weight 20%

Evaluation of this section will be based on: 1) adequacy and completeness of the Statement of Work, and 2) adequacy of the information presented for achieving project objectives through realistic milestones and logical task structure.

Program Policy Factors

After the comprehensive evaluations are completed for all competing Applications, DOE will apply Program Policy Factors. The purpose of considering these factors is to maximize the effective use of available Government funding. These factors will be considered by the Selection Official to ensure that the program, as a whole, meets the goals of the issuing Program Office and is consistent with EERE's mission. The factors to be applied are:

- Geographical Diversity
- Project Diversity
- Cost-Share

· Economic and community development benefits, including the facilitation of energy efficiency and renewable energy use: (1) in "empowerment zones" (those areas identified by the Department of Commerce as "historically underutilized business zones"); (2) in brownfields (abandoned, idled, or under-used industrial and commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination); (3) in "brightfields" (the application of solar technologies on brownfields); or (4) in American Heritage River communities; and

· Availability of Funds

Points of Contact:

Headquarters:		Lynne Gillette Office of Solar Energy Technology	(202) 586-1495
Regional Offices:	Atlanta:	Dwight Bailey	(404) 562-0564
	Boston:	Richard Michaud	(617) 565-9713
	Chicago:	Bill Hui	(312) 886-8586
	Denver:	Steve Sargent	(303) 275-4820
	Philadelphia:	Susan Guard	(215) 656-6965
	Seattle:	Heather Mulligan	(206) 553-7693

APPENDIX A - STATE AND LOCAL PARTNERSHIP DESCRIPTION

Million Solar Roofs State and Local Partnerships

What is a State and Local Partnership. The Million Solar Roofs (MSR) Initiative is designed to support states and local communities as they develop a strong commitment to the sustained deployment of solar energy technologies. In order to insure positive and productive results, the MSR resources are focused on those areas which have formed strong state or local partnerships which serve as the focal point for solar activity in that area. Million Solar Roofs State and Local Partnerships are collaborative ventures that bring together business, government, the energy industry and community organizations -- each individual entity being recognized as a member and partner -- with a commitment to install a set number of solar energy systems. Examples of state and local partners who could participate in a State and Local Partnership include the following:

- Builders
- Energy service providers
- Utilities
- Non-governmental organizations
- Local governments
- State governments

Becoming a State and Local Partnership. To become a MSR State and Local Partnership, any state or local entity, on behalf of a specific Partnership, must send a letter to the MSR Coordinator, expressing their commitment to the Initiative's objectives, describing the general nature of the partnership and its membership and indicating their goal for the specific number of qualified solar energy systems to be installed on buildings in their community by 2010. As a minimum, partnerships must commit to installing 500 solar energy systems by 2010.

In addition, Partnerships are asked to develop a draft plan for meeting their installation goals under the Initiative. Partnerships are encouraged to base their plans for deployment on local values in relation to the technologies' unique applications and operational attributes. Examples of activities the MSR State and Local Partnerships may undertake as part of their plan include the following:

- Committing state and local government actions to overcome barriers to solar energy and energy efficiency applications in buildings;
- Identifying financial incentives for solar energy installations;
- Establishing net metering for photovoltaics;
- Developing and/or modifying codes and standards that affect solar energy installations;
- Implementing training programs for building officials, the construction industry, solar energy system installers, and utility personnel;
- Providing outreach support for solar energy and energy efficiency;
- Taking part in national information sharing, peer-to-peer exchanges, and cooperative research and training projects;
- Connecting the MSR Initiative with other sustainable community initiatives.

Partnership Support. In return for their commitment, the Department of Energy, through its network of Regional Offices will coordinate and provide support for the State and Local Partnerships in their area. This might include the following:

- Access to the MSR Small Grants program for State and Local Partnerships;

- Training, technical assistance, outreach tools and information from DOE's Regional Offices; the program staffs of DOE's Offices of Power Technologies and Building Technology, State and Community Programs; the DOE Federal Energy Management Program; and the DOE national laboratories;
- Recognition and support on a national, regional, and local basis;
- Linkage with other partnerships, solar energy businesses, associations, and related industries that can provide assistance to local partnerships and others interested in solar energy applications.

APPENDIX B - MILLION SOLAR ROOFS REGIONAL OFFICE CONTACTS

For general information on the MSR Initiative, contact the Regional Office contact listed in Appendix B or visit the MSR website at *http://www.MillionSolarRoofs.or*g for additional information on the Initiative.

Atlanta Regional Office
Dwight Bailey
75 Spring Street, Suite 200
Atlanta, GA 30303-3308
phone: (404) 562-0564
fax: (404) 562-0537
email: dwight.bailey@ee.doe.gov
Southeast Region: FL, GA, SC, NC, AL, MS, KY, TN, AR, USVI, PR

Boston Regional Office
Richard Michaud
JFK Federal Building
Room 675
Boston, MA 02203-0002
phone: (617) 565-9713
fax: (617) 565-9723
email: richard.michaud@ee.doe.gov
Northeast Region: CT, ME, MA, NH, NY, VT, RI

Chicago Regional Office
Bill Hui
One South Wacker Drive
Chicago, IL 60606
phone: (312) 886-8586 - Hui
fax: (312) 886-8561
email: william.hui@ee.doe.gov
Region: IL, IN, IA, MI, MN, MO, OH, WI

Denver Regional Office
Jamey Evans
1617 Cole Blvd.
Golden, CO 80401-2266
phone: (303) 275-4813
fax: (303) 275-4830
email: jamey.evans@ee.doe.gov
Region: CO, KS, LA, MT, NE, NM, ND, OK, SD, TX, UT, WY

Philadelphia Regional Office
Susan Guard
1880 John F. Kennedy Blvd.
Suite 501
Philadelphia, PA 19103-7483
phone: (215) 656-6965
fax: (215) 656-6981
email: susan.guard@ee.doe.gov
Region: DE, DC, MD, NJ, PA, VA, WV

Seattle Regional Office
Heather Mulligan
800 Fifth Ave., Suite 3950
Seattle, Washington 98104-3122
phone: (206) 553-7693
fax: (206) 553-2200
email: heather.mulligan@ee.doe.gov
Northwest Region: AK, WA, ID, OR, CA, NV, AZ, HI, Pacific Territories

6.58 POWER TECHNOLOGIES: STATE WIND ENERGY SUPPORT

Legislation: Wind Energy activities are authorized under the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989, P.L. 101-218; and the Energy Policy Act of 1992, P.L. 102-486, Title XII.

Estimated Funds Available:	$770,000
Estimated Number of Projects:	12-15
Geographical Limitation:	None.
Cost Share:	At least a 25% non-Federal cost share is required; 50 percent is desired.
Funding Ceiling:	The Federal share of the cost of a project shall not exceed $75,000.

Background:

State Wind Anemometer Loan Program and Wind Resource Mapping
Knowledge of the wind resource is the first and often most important step toward wind development. Wind resource information helps not only landowners and developers, but also helps elected and appointed officials recognize the significant economic benefit potential of their state's wind resources. While a U.S. Wind Resource Atlas published in1987 provides some broad estimate of wind resources, modern methods and new meteorological databases now enable analysts to develop more accurate and detailed regional wind maps. In addition, new geographic information system (GIS) technologies enable producing maps with transmission grids, roads, county boundaries, federal/state/Native American lands, and geographical features.

Tall Tower Wind Assessment
A significant uncertainty affecting wind power development is wind resource behavior with increasing height, as successive generations of wind turbines become larger. Typical hub-heights of large utility-scale wind turbines are now in the range of 70 to 90 m. Researchers are now using meso-scale numerical weather modeling techniques to estimate wind speeds at heights in this range, but at present there is little measurement data available from heights above 40 to 50 m that can be used to validate these higher level estimates. Tall tower data is needed for this validation, as well as for examining the wind shear (i.e., variation of the wind resource with height) between low levels and increasing hub-heights of large wind turbines. Tall tower data from the Great Plains would also be useful in determining the effect of low-level jets on the wind resource throughout this area. The low-level jet phenomena consists of a layer of strong winds centered a few hundred meters above ground level. It reaches its maximum strength at night and occurs from Texas to the Canadian border. Further data is needed to understand how far down jets extend toward the surface during the night, and how that affects wind resource characterizations.

Small Wind System Support

There is an important opportunity for homeowners, ranchers, farmers, and some institutions to install small wind (100kW or less) systems for a wide range of applications. Some States have recognized the value of small wind systems and have developed incentives, including net metering, buy-downs, and tax credits. The DOE Wind Program has developed a small wind guidebook to help the users evaluate the opportunity for small wind applications, and has worked with state energy officials to customize the guide for state-specific wind resources, incentives, and contact information. However, additional barriers confront the broader use of small wind systems, including lack of support mechanisms in many States, local zoning and permitting requirements, grid interconnect requirements, and general knowledge of small wind system costs, benefits, and applicability.

Projects Requested in 2002

Proposals are sought in States suitable for wind development to undertake the above activities aimed at wind measurement and small wind system support. Proposals are being sought generally from States that have little wind development and good wind resources. Proposals from all States will be considered based on ranking according to the evaluation criteria below and availability of funds. Wind energy staff at the National Renewable Energy Laboratory (NREL) will be available to provide further information related to the activities detailed above.

For wind resource assessment activities, States are encouraged to work with appropriate consulting and/or educational institutions to ensure quality of data collection, analysis, and reporting. Resources such as the "Wind Resource Assessment Handbook" that is available on the NWTC web site (www.nrel.gov/wind) can be useful in aiding these institutions with their tasks. The raw and quality-assured data should be provided to NREL so that data can be archived and available to the larger wind community. Data may be kept confidential for one year, if requested.

State Wind Resource Assessment

Proposal are sought to increase the knowledge of the wind resource at the state level. States should form partnerships with universities, colleges, industry, utilities, landowners and renewable energy advocates as appropriate to develop a plan for implementation of an anemometer loan program, including solicitation of participants and sites, site visits and selection, installation, data collection, analyses and reporting. Resource map should be developed using mesoscale modeling and should be developed to include options to overlay with existing transmission grids, roads, county boundaries, federal/state/Native American lands, and geographical features. (Estimated DOE funding: $300,000)

Tall Tower Wind Assessment

The Department seeks better information on the U.S. wind resource at levels above normal measurements, often capped at 60 meters. States are requested to propose instrumentation of existing tall towers (100 meters or taller preferred) for one year of measurements at three heights, using duplicate anemometers at each location to avoid tower shadow. Proposals are sought in areas suitable for potential wind development with trees and/or rolling type terrain, or other areas where wind shear is a consideration, such as in Great Plains States where the low-level jet is

expected to be a significant factor. Areas of the first type include the Northeast and upper Midwest regions of the United States. Key States in these regions include New York, Pennsylvania, Maryland, Ohio, Michigan, Indiana, Illinois, Wisconsin, Iowa and Missouri. States in the latter type of areas include Texas, Oklahoma, Kansas, Minnesota, Nebraska, and North and South Dakota. Proposals from other States are permitted, and may be supported based on ranking according to the evaluation criteria below and availability of funds.

Meteorological staff at the National Renewable Energy Laboratory will be available for technical assistance in selection of instrumentation, siting and subsequent data processing. The cost of instrumenting, retrieving, and analyzing data from a single existing tall tower, such as communication tower, is estimated to be about $20,000-$25,000 for one year. This cost includes redundant wind measurement equipment at three levels. (Estimated DOE funding: $300,000)

Small Wind System Support
Proposals are sought to undertake activities to support increased use of small wind systems (100kW or less) and associated applications. Proposals should focus on activities to identify and address barriers to installation of small wind systems, including lack of state support mechanisms, local zoning and permitting requirements, grid interconnect requirements, and general knowledge of small wind system costs and benefits; on new applications for small wind systems, including irrigation and pumping, peak shaving, and on-site generation for federal facilities and parks; and on incorporation of small wind systems into utility programs to meet increasing electricity demand. (Estimated DOE funding: $170,000)

Proposals

Each proposal must include a detailed description, a time line and a budget, itemized by task. Proposals should be formatted to make the following required items easy to locate and the evaluation criteria, related to those requirements, easy to apply. The proposal should be formatted in 12 point font and not exceed 10 pages in length. All pages must be numbered. Proposals must include:

1. *Technical Narrative*. Describe the project, including how information resources will be selected, reviewed, and evaluated, and how the final results will be presented. Identify the desired outcome, results and benefits. Describe the steps to be taken to achieve the desired goals. In addition, all deliverables should be identified.

2. *Workplan and Milestones*. Describe how the proposed project will be developed and implemented. Identify goals using measurable results and provide a schedule for completion. Identify facilities, equipment, personnel and other resources necessary for this project. Explain the relationship (if any) to any DOE financial assistance previously received.

3. *Qualifications and Accomplishments*. Identify and describe lead agency, key personnel and other partners, including their qualifications, experience and expertise as it relates to successfully carrying out this project. If the applicant has received previous financial assistance from DOE relating to wind energy support activities, describe the progress and accomplishments to date in meeting the goals established for any such previous awards.

4. *Innovative and Technology Transfer Elements*. Describe any unique or innovative components of this project. Describe any components of the program that will expedite the development and sharing of information about wind energy in other States or regions or the transfer of information or techniques to other States or regions.

Special Conditions

The grantee is required to submit a final report summarizing all work completed under this project. Include in the final report the dates of significant events, major accomplishments and benefits of the project, and key products produced.

Evaluation Criteria

State proposals in each category will be ranked according to the following criteria:

1. Expected project contribution to improved understanding and outreach regarding wind energy resources, applications, and benefits, and overcoming barriers to wind development. (30 points)
2. Technical quality of proposed work plan for the project (30 points)
3. Capabilities and experience of the project team for completing proposed work plan (20 points)
4. Cost sharing above 25 percent (20 points).

Program Contacts:

Headquarters:		Phil Dougherty	(202) 586-4780
Regional Offices:	Atlanta:	Dwight Bailey	(404) 562-0564
	Boston:	Richard Michaud	(617) 565-9713
	Chicago:	Bill Hui	(312) 886-8586
	Denver:	Steve Palomo	(303) 275-4838
	Philadelphia:	Maryanne Daniel	(215) 656-6964
	Seattle:	Curtis Framel:	(206) 553-7841

6.59 POWER TECHNOLOGIES: Distributed Energy Resources Electrical Interconnection

Legislation: Distributed Energy Resources activities are authorized under the Department of Energy Organization Act, P.L. 95-91.

Estimated Funds Available:	$55,000
Estimated Number of Projects:	1-2
Cost Share:	At least 50% of project costs must be from non-Federal funds. For example, where the total cost of the project is $110,000, the DOE share would not exceed $55,000, and the grantee's cost share would be at least $55,000.
Funding Ceiling Per Project:	The Federal share of the cost of a project shall not exceed $55,000

Background:

Distributed Energy Resources

The Distributed Energy Resources (DER) program directs and coordinates a diverse portfolio of research and development. Activities consist of investments in natural gas and renewable technologies including advanced turbines and microturbines, natural gas engines, fuels cells, and cooling, heating and power systems (CHP). The program conducts supporting RD&D in enabling technologies such as advanced combustion systems, advanced materials, and communication and control systems. Additional efforts focus on energy generation and delivery systems and architectures for distributed energy resources to strengthen grid reliability in electricity transmission and distribution technologies, energy storage systems, grid interconnection technologies, power parks, mini grids, and district energy. Outreach and implementation activities address infrastructure, institutional and regulatory needs in utility restructuring, environmental siting and permitting, uniform interconnection standards, tax provisions, and state initiatives.

A number of technical barriers need to be addressed to achieve the vision, mission, and goals for cleaner and more efficient, reliable, and affordable distributed energy resource technologies. There are regulatory and institutional barriers that interfere with market development. For example, the existing regulatory framework for energy generation, delivery, and use favors incumbent suppliers. Environmental siting and permitting requirements are different from state-to-state. Output-based emissions standards and pre-certification of certain types of systems are being considered but further analysis is needed. Siting difficulties along with a lack of uniform interconnection standards across utility service territories often leads to costly delays in project schedules. Effectively addressing these technology, policy, and market barriers will accelerate the implementation of DER.

Projects Requested in 2002:

Regulatory Education and Outreach: **Electrical Interconnection of DG Systems**

Cost shared proposals are sought for the development of education and/or training materials (video tapes with hard copy manuals), on the process of interconnecting new DG systems with the electrical grid (distribution and transmission levels), and permitting such installations. The target audience for these training modules includes local building code and electrical inspectors, fire safety inspectors, city and county planning personnel, and state energy regulators. In addition, regional or multi-state efforts are desirable.

Evaluation Criteria:

Proposals will be evaluated based on the following criteria:

- QUALIFICATIONS/EXPERIENCE - The ability of the project team to successfully complete the work will be evaluated. (30 points)
- TEAM - State and/or regional involvement in the project, including prospective permitting and other decision making agents, local government, and community leaders. Teams that are more comprehensive and include those participants needed to ensure project becomes a reality will receive higher rankings. Teams that will allow the project to have a more widespread impact will also receive higher rankings. (30 points)
- DESCRIPTION OF WORK - The overall clarity of the proposed work including work description, time line, deliverables, and responsibilities of performers. (20 points)
- IMPACT - The benefits of the proposed activities will be evaluated with higher rankings given to proposals that are anticipated to have more widespread benefits. Activities/projects that are replicable will be evaluated more favorably. (20 points)

Program Contacts:

Headquarters:		Joseph Galdo	(202) 586-0518
Regional Offices:	Atlanta:	Steve Horton	(404) 562-0593
	Boston:	Al Benson	(617) 565-9734
		Scott Hutchins	(617) 565-9765
	Chicago:	Gary Nowakowski	(312) 886-8575
	Denver:	Cathy Ghandehari	(303) 275-4805
		Steve Sargent	(303) 275-4820
	Philadelphia:	Joseph Barrett	(215) 636-6957
	Seattle:	Curtis Framel	(206) 553-7841
		Jeff James	(206) 553-2079

6.60 POWER TECHNOLOGIES: DISTRIBUTED ENERGY RESOURCES TECHNOLOGIES

Legislation: Distributed Energy Resources activities are authorized under the Department of Energy Organization Act, P.L. 95-91.

Estimated Funds Available:	$1,240,000
Estimated Number of Projects:	15
Cost Share:	At least 20% of project costs must be from non-Federal funds. For example, where the total cost of the project is $125,000, the DOE share would not exceed $100,000, and the grantee's cost share would be at least $25,000.
Funding Ceiling Per Project:	The Federal share of the cost of a project shall not exceed $100,000

Background:

Distributed Energy Resources

The Distributed Energy Resources (DER) program directs and coordinates a diverse portfolio of research and development. Activities consist of investments in natural gas and renewable technologies including advanced turbines and microturbines, natural gas engines, fuels cells, and cooling, heating and power systems (CHP). The program conducts supporting RD&D in enabling technologies such as advanced combustion systems, advanced materials, and communication and control systems. Additional efforts focus on energy generation and delivery systems and architectures for distributed energy resources to strengthen grid reliability in electricity transmission and distribution technologies, energy storage systems, grid interconnection technologies, power parks, mini grids, and district energy. Outreach and implementation activities address infrastructure, institutional and regulatory needs in utility restructuring, environmental siting and permitting, uniform interconnection standards, tax provisions, and state initiatives.

A number of technical barriers need to be addressed to achieve the vision, mission, and goals for cleaner and more efficient, reliable, and affordable distributed energy resource technologies. There are regulatory and institutional barriers that interfere with market development. For example, the existing regulatory framework for energy generation, delivery, and use favors incumbent suppliers. Environmental siting and permitting requirements are different from state-to-state. Output-based emissions standards and pre-certification of certain types of systems are being considered but further analysis is needed. Siting difficulties along with a lack of uniform interconnection standards across utility service territories often leads to costly delays in project schedules. Effectively addressing these technology, policy, and market barriers will accelerate the implementation of DER.

Combined Heat and Power

Two-thirds of the energy required to make electricity in the United States never reaches its destination. This two-thirds is the heat that is vented in conventional power plants, which is why average efficiency of power generation in the United States has held steady at 33% since 1960. The thermal losses in power plants total approximately 23 quadrillion Btus of energy, representing one-quarter of total energy consumption in the United States, enough energy to fuel the nation's entire transportation fleet. Combined Heat and Power (CHP) systems utilize this waste heat for productive purposes. This typically means heating and cooling buildings, or heat, mechanical power, dehumidifying systems, or compressed air for industrial and building applications. By making productive use of this waste energy, CHP can achieve overall efficiency levels of 70% or greater, which in turn decreases overall energy consumption, pollutant emissions or fossil fuel imports.

Unfortunately formidable market and regulatory barriers are impeding the installation of CHP systems. Siting and permitting requirements that vary by state are one such barrier. Building codes are not well developed to install new generation technologies such as fuel cells (i.e. fire codes). This lack of standardization results in costly custom engineering efforts to make the CHP system compatible with the local grid. It also makes it difficult for equipment manufactures to design and produce modular CHP packages.

Brownfields

Brownfields are defined as abandoned or contaminated, idled, or under-used properties where expansion or re-development is complicated by real or perceived environmental contamination. These properties present an active potential for reuse. Brownfields and/or Brightfields can foster economic activity, improve local air quality, enhance electric system reliability, and create new energy markets.

There are over 450,000 potential Brownfield sites, in all states and virtually every city. Many provide and excellent opportunity for distributed power generation (on-site generation). Examples of on-site generation could include turbines and microturbines, reciprocating engines, fuel cells, solar, and wind.

The National Energy Plan directs us to work with local and state governments to promote the use of combined heat and power and other clean power generation including renewable energy at Brownfield sites, consistent with local community interests.

Brownfield sites often are excellent locations for industry. Generally, the industrial sector is an ideal candidate for distributed generation and combined heat and power. Their power needs and thermal loads are well suited to theses systems. The revitalization of Brownfield sites can have a positive impact on the surrounding community. New development and new industries can mean new, local jobs. Power generation on site could be set up as a district energy system that could supply heating and cooling to the surrounding neighborhoods.

Brownfield sites provide excellent locations for new energy activities that revitalize communities, improve the environment and enhance energy security and reliability.

Fuel Cells

Fuel cells are rapidly emerging as the energy technology for the future, with the potential to provide electrical power and heat to the industrial and buildings sectors, as well as replace batteries in small portable electronic devices. The benefits of fuel cell power systems are well known and include inherently high efficiency, very low to zero environmental emissions, high quality power, and fuel flexibility. While the fuel cell operates on hydrogen fuel, existing liquid and gaseous fuels such as gasoline, natural gas, and propane (as well as alternative fuels such methanol and ethanol) can be processed in a fuel reformer to extract the hydrogen from the primary fuel. A fuel cell system operating on renewable hydrogen is truly a zero emission energy system with no carbon dioxide emissions with global warming potential, no smog-forming pollutants, no toxic chemical emissions, and no hydrocarbons from evaporated fuel.

A fuel cells' "fuel" is hydrogen which is typically isolated or "reformed" from a hydrocarbon source, such as natural gas, propane, methanol, or even gasoline. The necessary oxygen is extracted from ambient air. Fuel cells are categorized by the kind of electrolyte they use. Electrolyte types used in the building sector include phosphoric acid, molten carbonate, solid oxide, and proton exchange membrane (PEM).

There are currently many issues still to be addressed before fuel cells are widely available commercially. In general, there is very little long-term data collected on fuel cells or fuel cell systems that are operating in commercial buildings, residential or industrial settings. Some other general issues include integration into a building or system, connection to the grid, codes and standards, and technical issues such as durability, costs, reforming, and membranes.

Communication and Control Systems

Communication and control systems for DER encompass software and hardware components (e.g., sensors, data acquisition systems, remote monitoring systems, real-time metering, local and wide area networks, smart controls, site/enterprise energy management systems, and integration of electricity price). The primary objective of these systems is to allow interoperability and integrated operation of large numbers of DER from varying suppliers to achieve optimization in power quality, power reliability, and economic performance. The optimization enabled by communication and control systems is aimed at three aggregation levels: DER subsystems (such as hybrid and combined cooling, heat, and power systems); DER systems to meet customer requirements for facility operations (residential, commercial, industrial, manufacturing, etc.); and DER systems as resource options for electricity and natural gas utilities. Through the use of communication and control systems, real-time operational management of large numbers of DER will also be achieved to allow remote monitoring, dispatch, controls, and responses to contingencies and disturbances.

The ability to aggregate large numbers of DER is important to reach the mass of scale in power supply to meet customer needs in the following application areas: sale into wholesale and

ancillary services markets; peak shaving; power parks; mini-grids; remote and/or rural areas; premium power and other power quality requirements; and back-up power. This mass-of-scale production and aggregation of DER, which is induced by application demand, will, in turn, develop a viable market for DER to reach the goal described in the DOE Strategic Plan for DER; namely, by 2010, 20 percent of the nation's new electricity generation will be supplied by DER.

Projects Requested in 2002:

Distributed Generation

Cost shared proposals are sought for distributed generation (DG) projects that will support Regional and/or State restructuring activities as well as accelerating the installation of new DG facilities. The specific topic areas for this work include streamlining siting and permitting processes, development of pre certification technology protocols, and development of building codes and standards for distributed generation equipment. Distributed generation outreach and educational efforts (including workshops) and evaluation and analysis of regional opportunities and/or barriers to DG are also sought. Additional consideration will be given to more efficient systems, such as combined cooling, heating, and power. In addition, regional or multi-state efforts are desirable.

Combined Heat and Power and Brownfields

Cost shared proposals are sought for Combined Heat and Power projects including but not limited to those located at Brownfields. These proposals will support Regional, State and/or community activities that will accelerate the installation of CHP facilities including but not limited to Brownfields (or Brightfields).

Work would include feasibility studies/engineering support for redeveloping Brownfields (sites designated as Empowerment Zone/Enterprise Community, EPA-listed Brownfield, or other category) and must include combined heat and power systems as part of the re-development solution. The study can include the site and the surrounding community (for example a district energy system that would include cooling and heating for the Brownfield site and the surrounding community). Engineer support would also be available to demonstrate a repeatable combined heat and power system (which includes cooling and power) that involves a consortium of participants from the same industry (e.g., merchant stores, grocery stores, metal casting facilities, hospitals).

Fuel Cells

Cost shared proposals are sought for Fuel Cell Projects to support long term testing and/or engineering/system design and support. Systems that are installed in industrial, commercial or residential settings will be given the highest priority for funding. In addition, fuel cells that are, or will be part of an integrated system (packaged system including capturing and using waste heat in a combined heating, cooling, and power system) will also given preference to stand alone fuel cells. Funding is not to include primary equipment such as the fuel cell or equipment that would be used in a package system such as the thermally activated equipment.

Communication and Control Systems

Cost-shared proposals are sought involving use of real-time metering in peak-shaving applications. Blackouts, brownouts, and rolling blackouts that occurred recently during peak-demand periods prompted trial use of real-time electricity meters in selected localities to effect reduction in electricity use. One notable example was announced by the Los Angeles Department of Power and Water, which planned the installation of "smart" meters for 3,400 of its large business customers to allow end-user management and forecast of electricity use in real time, with an estimated reduction in electricity bills by 15 percent and enough freed-up energy to power 240,000 households. Other smaller-scale trial uses of real-time meters with similar beneficial effects were reported in San Diego, CA, and in Philadelphia, PA.

Specifically, proposals are sought in the following areas:

- Assess the impact of real-time metering on peak shaving. Statewide assessment is preferred, with grouping of areas in accordance with their relative impact on electricity use reduction. Methodologies that will be used to predict the reduction amount must be clearly presented, as must barriers (technical, institutional, economic, etc.) for installation.
- Jointly with utilities and energy service companies, promote use of and/or install real-time meters in selected, high-impact areas. A detailed plan to reach out to end-use community(ies) to promote acceptance of and educate in the use of such meters must be presented in the case of promotional efforts; whereas, in the case of installation, the merit of the selected vendor products and numbers of installation with end-use facilities (residential, commercial, industrial, and state-owned) must be presented.

Preference will be given to proposals that will implement the use of, or have an implementation plan for the use of, real-time meters, with a predicted high reduction in electricity use. However, assessment that substantiates a large reduction in electricity use will also be considered, as will promotional efforts.

For all topic areas, demonstrations will also be allowable if they will lead to improvements and/or validation of the topic areas listed.

Evaluation Criteria:

Proposals will be evaluated based on the following criteria:

1. APPROACH - The overall merit of the proposed approach will be evaluated as well as the overall quality of the proposed work. (30 points)
2. DESCRIPTION OF WORK - The overall clarity of the proposed work including work description, time line, deliverables, and responsibilities of performers. (20 points)
3. IMPACT - The benefits of the proposed activities will be evaluated with higher rankings given to proposals that are anticipated to have more wide spread the benefits. Activities/projects that are replicable will be evaluated more favorably. (20 points)

   Examples might include (but are not limited to):

- Benefits to the brownfield site and surrounding community including such things as jobs created and other economic benefits, environmental gains, and possibility of replication at other sites.
- Projects that address and overcome issues that hinder the wider spread use of fuel cells. Higher rankings will also be given to those systems that, after proving out and collecting data, will be easily replicable.

4. TEAM - State and/or regional involvement in the project, including prospective permitting and other decision making agents, local government, and community leaders. Teams that are more comprehensive and include those participants needed to ensure project becomes a reality will receive higher rankings. Teams that will allow the project to have a more widespread impact will also receive higher rankings. (20 points)
5. QUALIFICATIONS/EXPERIENCE - The ability of the project team to successfully complete the work will be evaluated. (10 points)

Program Contacts:

Headquarters:		Merrill Smith	(202) 586-3646
Regional Offices:	Atlanta:	Steve Horton	(404) 562-0593
	Boston:	Al Benson	(617) 565-9734
		Scott Hutchins	(617) 565-9765
	Chicago:	Gary Nowakowski	(312) 886-8575
	Denver:	Cathy Ghandehari	(303) 275-4805
		Steve Sargent	(303) 275-4820
	Philadelphia:	Joseph Barrett	(215) 636-6957
	Seattle:	Curtis Framel	(206) 553-7841

6.61 POWER TECHNOLOGIES: Superconductivity Program Information Dissemination and Outreach Activities to State Agencies

Estimated Funds Available:	$435,000
Estimated Number of Projects:	5-9 total (see breakouts by activity below)
Anticipated Project Period:	As indicated by activity below.
Cost Share:	20 % desired for Activity One cited in first paragraph of "Area of Interest" section.

Background and Objectives

The DOE Superconductivity Program for Electric Power Systems supports national energy, economic, environmental and educational interests by providing leadership in developing high temperature superconducting (HTS) electric power devices and facilitating their adoption by the utility industry and the private sector. Although it will be another three years before the first commercially viable HTS power products are available, HTS technologies promise to improve almost every aspect of how electricity is generated, delivered, and used. HTS, when commercialized on a large scale, should provide significant environmental and economic benefits. Prototype HTS power equipment is being designed and tested in key applications, including transformers, current controllers, cables, motors and generators. HTS technology is potentially an entirely new form of power equipment that will have to be integrated into an existing system. Utilities and state agencies and regulators are not familiar with HTS devices and the effect they will have on the grid. The program's Superconductivity Partnership Initiative (SPI) prototype demonstration projects team utilities with HTS industry stakeholders in an effort to prove the technology under real-world conditions. Experience from the SPI projects provides a basis for informing power companies, industry stakeholders, and federal and state agencies, legislators, and regulators of HTS technology potential.

The Superconductivity Program is now interested in encouraging activities to broaden the national effort and deliver the accomplishments of the program to the state and local level. State organizations include, but are not limited to: state energy offices; public utility commissions; departments of environmental protection, natural resources, consumer advocates, and community and economic development; legislators; state environmental and economic commissions; and business roundtables.

Across the country, utility infrastructure is aging. Power equipment will need replacement. There is an unprecedented opportunity for rapid market penetration of HTS power equipment in the coming years. State governments need to be aware and make the most of this opportunity. State governments are concerned with issues of ensuring that a competitive electric utility industry is in place that can deliver adequate and affordable supplies with reduced environmental impacts. Regulators and other state-based officials are tackling energy efficiency and renewable technology market transformation issues and mechanisms and policy options to enable their

states to meet their energy policy goals. State-based officials, legislators, regulators, and others need increased awareness and education of HTS technologies, issues, and benefits in order to achieve the general acceptance of HTS power equipment and the resulting modernization of our national electric system.

Area of Interest

Applications for cost-shared funding are requested from state government agencies addressing one or more of the following activities:

- Analysis of benefits to state electrical systems that superconductivity could potentially provide and draft plans for implementation. This research includes identification of bottlenecks in electrical delivery systems, upgrading of distribution systems in urban areas, and supporting growth in distributed power or renewable power systems. This also would include identification of barriers to implementation and approaches to eliminating barriers. (2 projects, up to $250,000 total funding. Cost sharing of at least 20% is desired. Projects should be completed within 18 months.)

- Development and facilitation of state meetings and workshops that are designed to disseminate information on the technical, economic, and environmental feasibility, benefits, and effectiveness of HTS technologies and that emphasize a technology and systems integration approach. Outreach meetings should also discuss policy issues and how energy policy decision makers address complex issues. To facilitate the adoption of HTS technologies by non-Federal users, information on these technologies and their cost-effective applications in the marketplace needs to be provided to key state stakeholders. The information and discussion should include technology development efforts, the needs of users and consumers, and associated state and local issues concerning the siting and use of these technologies. (2 projects, up to $250,000 total funding. Projects should be completed by the end of calendar year 2002.)

- Assistance in the development of state(s) plans to facilitate investment in and the implementation of HTS power technologies, especially those supported by DOE, through the establishment of partnerships, including state government(s), industry, and universities. (1 - 4 projects, up to $75,000 total funding. Projects should be completed by the end of calendar year 2002.)

Evaluation Criteria:

Proposals will be evaluated based on the following criteria:

- APPROACH - the overall merit of the proposed approach will be evaluated as well as the likelihood of goals and schedule being met. Cost-sharing will also be considered. (20 points)
- DESCRIPTION OF WORK - The overall clarity of the proposed work including goals, schedule, deliverables and responsibilities of performers, (20 points)

- IMPACT - The outputs, outcomes, relevance to National Energy Policy will be evaluated with higher rankings given to proposals that are anticipated to have greater benefits. (30 points)
- TEAM - State and/or regional involvement in the project, including regulatory and other decision making agents. Research teams should include the competencies needed to successfully accomplish the proposed work. (20 points)
- QUALIFICATIONS/EXPERIENCE - The ability of the project team to successfully complete the work will be evaluated. (10 points)

Program Contacts:

Headquarters:		Marshall Reed	202-586-8076
		James Daley	202-586-1165
Regional Offices:	Atlanta	Dwight Bailey	404-562-0564
	Boston	Scott Hutchins	627-565-9765
	Chicago	Peter Dreyfuss	312-886-8575
	Denver	Cathy Ghandehari	303-275-4805
	Philadelphia	Joseph Barrett	215-636-6957
	Seattle	Jeff James	206-553-2079

6.62 POWER TECHNOLOGIES: State Geothermal Energy Support

Legislation: Geothermal activities are authorized under the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989, P.L. 101-218; and the Energy Policy Act of 1992, P.L. 102-486, Title XII.

Estimated Funds Available:	$475,000
Estimated Number of Projects:	6
Cost share:	At least 25% of project costs must be from non-Federal funds but 50% cost-share is desired. For example, where the total cost of the project is $50,000, the DOE share would not exceed $38,500, and the grantee's cost share would be at least $12,500, but it is preferable if the grantee's cost share were $25,000.
Geographical Limitation:	Proposals are restricted to States in the Denver and Seattle Regions.
Funding Ceiling per Project:	The Federal share of the cost of a project shall not exceed $100,000.

Background:

Current applications of geothermal energy include generation of electric power, space heating, crop processing, aquaculture, and industrial processes. Geothermal energy is already a significant supplier of electricity to the western grid, with 2800 MWe installed in California, Nevada, Utah, and Hawaii. Existing and improved technology for geothermal heat reservoir discovery and recovery will allow a broadening to the entire West. Studies have identified nearly 300 western communities in ten States with potentially usable geothermal resources within five miles. From Albuquerque to Seattle, the potential for expansion clearly exists.

A major problem that hinders geothermal development is that most State and local governments are unfamiliar with geothermal energy, have little experience with geothermal development, and have not considered the benefits in providing local jobs for resource development, construction, and operation of facilities.

While the use of high-temperature geothermal resources is an established technology in California, Nevada, Utah, and Hawaii, the benefits of geothermal energy are not as fully appreciated in other States where the majority of resources exist at lower temperatures more appropriate for heating than for electric power generation. Provision of information about use of geothermal energy for direct applications and electric power generation will help increase its use across the West.

Projects Requested in FY 2002:

The goal of this project is to expand the use of geothermal energy in the western United States. To achieve this goal, DOE is seeking proposals from States for two types of projects:

Benefit/Cost Analyses
Proposals are sought for projects that will involve case studies of the benefits and costs of deployment of geothermal direct use or electric generation projects in one or more States in the western United States (i.e., those in the Denver and Seattle Regions). The projects should review available information related to geothermal development, develop nominal project parameters, identify good geothermal project locations, analyze the economics of state-of-the-art projects at those sites, and develop a plan to promote the economic benefits to industry and the associated communities and the tax benefits to State, local, and Federal entities. The economic analysis should consider the revenues from sale of the heat, electric power, or other products; cost and tax flows associated with construction, operations and maintenance; salaries and multipliers; and royalties to Federal and State governments and to resource owners. Studies of existing or potential projects would be acceptable.

Information Clearinghouses
Proposals are sought for projects that will involve providing public access to information about geothermal energy resources, technologies, economics, projects, etc. The projects may provide a well-known, credible and objective clearinghouse of available geothermal energy information, including a website with links to and coordination with other DOE-funded geothermal websites and a toll-free hotline for individuals searching for data on geothermal energy, points of contact, references, and technical assistance. The resources should address regional needs, including potential and existing project-specific data so that information among the many communities examining geothermal energy is well-coordinated and development of this information is not duplicated.

State Trade Missions
This area involves the creation of expert teams to conduct "trade missions" designed to inform community leaders of the potential for geothermal development in their area of the state. The teams would consist of members from relevant state agencies (e.g., resources, economic development), industry, and academia. "Missions" would involve presentations and other forms of information exchange by the teams at workshops, town meetings, and other important public gatherings. The teams would educate decision makers about the extent of their nearby geothermal resource, the potential for development, and the benefits to be derived from development. Additional followup missions may be conducted to advise community leaders on appropriate next steps and assist with feasibility studies.

Proposals

Each proposal must include a detailed description, a time line and a budget, itemized by task. Proposals should be formatted to make the following required items easy to locate and the evaluation criteria, related to those requirements, easy to apply. The proposal should be formatted in 12 point font and not exceed 10 pages in length. All pages must be numbered.

Proposals must include:

1. *Technical Narrative*. Describe the project, including how information resources will be selected, reviewed, and evaluated, and how the final results will be presented. Identify the desired outcome, results and benefits. Describe the steps to be taken to achieve the desired goals. In addition, all deliverables should be identified.

2. *Workplan and Milestones*. Describe how the proposed project will be developed and implemented. Identify goals using measurable results and provide a schedule for completion. Identify facilities, equipment, personnel and other resources necessary for this project. Explain the relationship (if any) to any DOE financial assistance previously received.

3. *Qualifications and Accomplishments*. Identify and describe lead agency, key personnel and other partners, including their qualifications, experience and expertise as it relates to successfully carrying out this project. If the applicant has received previous financial assistance from DOE relating to economic analysis or outreach activities, describe the progress and accomplishments to date in meeting the goals established for any such previous awards.

4. *Innovative and Technology Transfer Elements*. Describe any unique or innovative components of this project. Describe any components of the program that will expedite the development and sharing of information about geothermal energy in other States or regions or the transfer of information or techniques to other States or regions.

Special Conditions

The grantee is required to submit a final report summarizing all work completed under this project. Include in the final report the dates of significant events, major accomplishments and benefits of the project, and key products produced.

Evaluation Criteria

State proposals will be ranked according to the following criteria:

1. POTENTIAL IMPACT: (40 points) The anticipated benefits of the project activities will be evaluated. The desired benefits are the expansion of the use of geothermal energy in the western United States, especially lower-temperature geothermal resources best suited for direct use, and the transfer of information to industry, State and local governments, and the general public.

2. APPROACH: (25 points) The overall merit of the proposed approach will be evaluated. The approach should support the activities of reviewing available information on geothermal development and use, evaluating that information to determine the most appropriate characterization of geothermal development in a given State or region of the western United States, and transferring that information to the target audience.

3. QUALIFICATIONS: (25 points) The ability of the project team to successfully complete the work, including qualifications of key personnel, will be evaluated. Experience and past success in reviewing, synthesizing, and evaluating information on energy resource development and use will be considered.

4. COST SHARE: (10 points) Cash or in-kind contributions over the required 25% cost share will be given positive consideration.

Program Contacts:

Headquarters:		Raymond LaSala	(202) 586-4198
Regional Offices:	Denver:	Steve Palomo	(303) 275-4838
	Seattle:	Curtis Framel	(206) 553-7841

6.63 POWER TECHNOLOGIES: ENERGY STORAGE for TRANSMISSION CONGESTION RELIEF, PRICE RESPONSE, and SYSTEM SECURITY

Legislation: Distributed Energy Resources activities are authorized under the Department of Energy Organization Act, P.L. 95-91.

Estimated Funds Available:	$125,000
Estimated Number of Projects:	1-2
Cost Share:	At least 20% of project costs must be from non-Federal funds. For example, where the total cost of the project is $87,500, the DOE share would not exceed $70,000, and the grantee's cost share would be at least $17,500.
Funding Ceiling Per Project:	The Federal share of the cost of a project shall not exceed $70,000

Background:

Energy Storage

Because of increases in system electrical power loads and the reluctance and/or inability of utilities to upgrade or build new power transmission systems, many aging transmission systems are near their original design capacities and are unable to reliably support existing load requirements. The consequences of this lack of transmission capacity subjects many customers to power brown-outs and in some cases black-outs as power systems are unable to respond to load requirements. The real impact of the overloads is not constant but periodical, infrequent and somewhat seasonal in many parts of the country. However, the currently perceived solution is to upgrade or build new transmission capabilities to support these infrequent overloads. A more cost effective and immediate solution to these periodic transmission overloads could be to move power down the transmission lines during low load periods, such as overnight, and store the energy in an electricity storage device until it is needed. This storage could offset the infrequent future overload situations, and in addition, be dispatched on other occasions in response to high spot market energy prices, or to provide operating reserves or dynamic stability to support grid operations. Advances in energy storage appear to make this option more viable. Modern energy storage technologies are now available in the form of advanced batteries, as well as improved lead-acid batteries, to implement the deferral of transmission system upgrades at a fraction of the cost of such upgrades and to eliminate the brown-outs and black-outs which are caused by overloaded transmission
systems.

Projects Requested in 2002:

Cost shared proposals are sought to evaluate the feasibility and potential economic advantages of deferring power transmission system upgrades using modern electricity storage technologies. The elements of the work would include addressing the costs associated with upgrading or augmenting existing power transmission systems that are near capacity or that are periodically at their design limits, evaluating anticipated load growth for the transmission system for up to 20 years, and evaluating the type and size of a modern technology, electrical energy storage device, that would provide for the required periodic peak energy demands above the design capacity of the existing transmission line for an anticipated 20 year growth period. Based on the gathered information, the potential economic advantage, if any, of the deferral of the transmission system upgrade against the acquisition and operating costs of the storage system over the 20 year life of the system shall be compared. In addition to determining the economic benefit of the deferral of the transmission system upgrade, if any, the study should also consider and evaluate economic benefits associated with ancillary services that could be performed by the storage system to include spot market support, peak shaving, area frequency and voltage regulation, and VAR compensation services. The outcome of this work should be a report that evaluates the economic benefit, if any, of deferring transmission system upgrades through the implementation of modern technology electrical energy storage devices on the transmission system.

Evaluation Criteria:

Proposals will be evaluated based on the following criteria:

- APPROACH - The overall merit of the proposed approach will be evaluated as well as the overall quality of the proposed work. (30 points)
- DESCRIPTION OF WORK - The overall clarity of the proposed work including work description, time line, deliverables, and responsibilities of performers. (20 points)
- IMPACT - The benefits of the proposed activities will be evaluated with higher rankings given to proposals that are anticipated to have more wide spread the benefits. (20 points)
- TEAM - State and/or regional involvement in the project, including prospective permitting and other decision making agents, local government, and community leaders. Teams that are more comprehensive and include those participants needed to ensure project becomes a reality will receive higher rankings. (20 points)
- QUALIFICATIONS/EXPERIENCE - The ability of the project team to successfully complete the work will be evaluated. (10 points)

Program Contacts:

Headquarters:		Imre Gyuk	(202) 586-1482
		Phil Overholt	(202) 586-8110
Regional Offices:	Atlanta:	Steve Horton	(404) 562-0593
	Boston:	Al Benson	(617) 565-9734
		Scott Hutchins	(617) 565-9765
	Chicago:	James Piepmeier	(312) 886-8583
	Denver:	Cathy Ghandehari	(303) 275-4805
		Steve Sargent	(303) 275-4820
	Philadelphia:	Joseph Barrett	(215) 636-6957
	Seattle:	Curtis Framel	(206) 553-7841

6.64 POWER TECHNOLOGIES: BIOFUELS FOR POWER GENERATION

Legislation: Biomass activities are authorized under the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989, P.L. 101-218; and the Energy Policy Act of 1992, P.L. 102-486, Title XII.

Estimated Funds Available:	$600,000
Estimated Number of Projects:	8 to 12 ($50,000-$75,000 in Federal funds per project)
Cost Share:	At least a 50% non-Federal cost share is required, and a higher percentage is encouraged. For example, where the total cost of the project is $100,000, the Federal share would not exceed $50,000, and the grantee's cost share would be at least $50,000.
Funding Ceiling:	The Federal share of the cost of a project shall not exceed $100,000.

Background:

The Biomass Power Program under the Office of Power Technologies is seeking State and local partners to identify opportunities to use biofuels to generate power. Diesel and spark ignition engines are used for power generation in remote sites, in industrial cogeneration applications, for providing peaking power, and for emergency backup. The use of renewable fuels or biofuels (e.g., biodiesel, bio-oils, ethanol, and ethanol/diesel blends) in biopower applications reduces our dependency on fossil fuels, provides a secure, domestically produced fuel, and reduces harmful exhaust emissions; and in many cases biofuels can be produced from waste resources, thus providing an additional environmental benefit.

Projects Requested in FY 2002:

In the context of the potential applications, cost-shared proposals are sought:

- to assess the feasibility of site-specific power projects using biofuels, or
- to implement actual site-specific biopower projects based on biofuels

Feasibility studies would address economic, energy, and environmental aspects. Implementation projects would demonstrate the feasibility and document technical and economic performance of biofuels for power generation applications for at least six months. Proposals are especially sought for applications that show a high level of cost effectiveness, significant reductions in NOx emissions, and are readily replicable.

Evaluation Criteria:

1. Scientific soundness and completeness of proposal. (Yes or No)
2. Qualifications and resources of the project team (education and experience relative to proposal and resources available to perform work) (25 points)

3. Diversity of project partnerships (e.g, state government agencies, private sector) *as evidenced by letters of cooperation attached to proposal*. (20 points)
4. Projected economic and environmental benefits of project. (25 points)
5. Opportunity for replication: projects that can be readily replicated either within the State or in other parts of the country. (15 points)
6. Cost-sharing: amount of non-federal cost-sharing in excess of 50%. Must at a minimum match dollar for dollar. (15 points)

Program Contacts:

Headquarters:		Sam Tagore	(202) 586-9210
Regional offices:	Atlanta:	Traci Leath	(404) 562-0570
	Boston:	David Mark	(617) 565-9711
	Chicago:	Michael Bednarz	(312) 886-8585
	Denver:	Dave Waltzman	(303) 275-4821
	Philadelphia:	Maryanne Daniel	(215) 656-6964
	Seattle:	Jeffrey James	(206) 553-2079

Gail McKinley, Director
Office of Building Technology Assistance
Energy Efficiency and Renewable Energy