

GRANT APPLICATION MANUAL

ENERGY INNOVATIONS SMALL GRANT PROGRAM FOR NATURAL GAS

Solicitation 14-03G

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PART I. INTRODUCTION AND COMMONLY ASKED QUESTIONS ABOUT THE ENERGY INNOVATIONS SMALL GRANT (EISG) PROGRAM

A. Introduction

The California Energy Commission (Energy Commission) is offering Energy Innovations Small Grant (EISG) funding through its program administrator, the San Diego State University Foundation. The EISG Program funds projects **that determine the feasibility of energy research and development concepts relating to the Public Interest Energy Research (PIER) Program.** This manual provides the information needed to establish applicant eligibility and to complete the application package. In addition, this manual describes key program features related to proposal evaluation, approval, grant contracting, and assistance available to applicants and grantees.

This manual is revised for each EISG solicitation. Applicants must use the current version of the manual that is posted with the EISG solicitation on the EISG Solicitation web page (www.energy.ca.gov/contracts/smallgrant) where it is available for viewing and downloading in both PDF and Word format. A hard copy of this manual is available from the EISG Program Administrator upon request during an open solicitation. Requests for a hard copy may be submitted via email, fax, or U.S. mail to:

EISG Program Administrator
San Diego State University Research Foundation
5250 Campanile Drive, MC 1858
San Diego, CA 92182-1858
Phone: (619) 594-1049
Fax: (619) 594-0996
Email: eisg@projects.sdsu.edu

Applicant Notification List

Applicants for this solicitation may receive notification of any changes to the solicitation by subscribing to the Applicant Notification List. Send an email to eisg@projects.sdsu.edu and request that your email address be added to the “**Applicant Notification List**”. Applicant contact information will only be retained for the current solicitation.

EISG Solicitation Notification List

Individuals and organizations may receive notification of future EISG solicitations via email by subscribing to the EISG Solicitation Notification List. Send an email to the EISG Program Administrator at eisg@projects.sdsu.edu. The subject line or body of the email must state, "Subscribe to the EISG Solicitation Notification List". If you want the notification to be sent to an address other than the address from which the email was sent, include the email address in the body of the email.

B. Commonly Asked Questions About the EISG Program

This part answers commonly asked questions about the EISG Program to help applicants determine whether to apply for funding.

1. *What is the difference between the EISG Program and the PIER Program?*

The EISG Program is a component of the PIER Program, which is managed by the Energy Commission. The purpose of the PIER Program is to provide benefits to California electricity and natural gas ratepayers by funding energy research, development, and demonstration (RD&D) projects

that are not adequately provided for by competitive and regulated energy markets. The EISG program supports the early development of promising new energy technology concepts, a niche not covered by PIER general solicitations that focus primarily on development of established concepts. This solicitation corresponds to the PIER natural gas program.

2. Who can apply for grants?

Participation in the EISG program is restricted to the following groups:

1. **Individuals:** Individuals must apply independently, meaning unaffiliated with an organization. If employed by or affiliated with an organization, individual applicants must have authorization from the organization to pursue project development exclusively as an individual with no rights reserved to the organization. The individual, not the organization, retains all intellectual property rights accrued from the grant project.
2. **All businesses:** There is no restriction on the size of the business.
3. **Non-profit organizations:** Non-profit organizations must possess IRS tax exemption. Non-profit organizations that are under contract to the Energy Commission to perform PIER-related work outside of the EISG Program may not apply to the EISG Program.
4. **Academic institutions:** This category includes public and private postsecondary institutions.

Federal agencies, federal laboratories, and Federally Funded Research and Development Centers (FFRDCs) are not eligible to apply directly but can participate as subcontractors on grant projects.

The Energy Commission reserves the right to limit participation in a particular solicitation to one or more of the four applicant groups listed above and/or to the PIER R&D areas identified in Section 5.

3. How much funding is available for each grant and the program?

A maximum of \$150,000 for hardware projects requiring physical testing or \$75,000 for modeling projects is available to awardees per grant project. Approximately \$2.6 million per year of PIER funds are allocated to EISG grants.

4. Are matching funds and repayment of the grant required?

There are no match funding or repayment requirements associated with the EISG Program. However, cost sharing is encouraged and will be considered in the evaluation process.

5. What type of work is eligible for funding?

Proposals must meet **all** of the following criteria to be eligible for consideration under the EISG program. The proposed work must:

- (a) Advance science or technology not adequately addressed by competitive and regulated markets;
- (b) Involve an original innovative solution to a significant energy problem;
- (c) Be in the proof-of-concept phase;
- (d) Address a California market need;
- (e) Provide a clear potential benefit to California natural gas ratepayers; and
- (f) Target one of the PIER R&D areas listed below (see Appendix A for examples);
 1. Building End Use Energy Efficiency
 2. Industrial Agriculture and Water Sector End Use Efficiency
 3. Renewable energy technologies
 4. Natural Gas Infrastructure

5. Energy Related Environmental and Climate Change

California-based Entity (CBE) Requirement

- (a) The proposal must include a California-based Entity (CBE) as either the recipient or a subcontractor. A CBE is a corporation or other business entity organized for the transaction of business that:
 - a. Has its headquarters or an office in California; and
 - b. Substantially manufactures the product or substantially performs the research within California that is the subject of the award.
- (b) The proposal budget must allocate at least 80% of EISG funds to one or more CBEs.
- (c) No more than 20% of the EISG funds may be subcontracted to non-CBEs.

Applicants must complete **Form G** (California-Based Entity Form).

California Economic Investment Requirement

- (a) If the CBE is the recipient, the proposal budget narrative must show that it will spend at least 80% of EISG funds in California.
- (b) If the recipient is not a CBE, the proposal budget must provide evidence that the recipient will subcontract at least 80% of EISG funds to a CBE and that the CBE will spend the funds in California.
- (c) The 80% applies only to EISG funds and does not include the Applicant's matching funds.
- (d) Preference points will be added to the final Program Technical Review Board (PTRB) score as follows:
 - 80% to 84% of EISG funds spent in California, 1 out of 5 possible points
 - 85% to 88% of EISG funds spent in California, 2 out of 5 possible points
 - 89% to 92% of EISG funds spent in California, 3 out of 5 possible points
 - 93% to 96% of EISG funds spent in California, 4 out of 5 possible points
 - 97% to 100% of EISG funds spent in California, 5 out of 5 possible points

Proposals that are most competitive are those that are clearly drafted and:

1. Establish the feasibility of concepts designed to advance energy science and/or technology beneficial to California's natural gas ratepayers;
2. Identify the research gaps that make the project necessary; and
3. Describe the research tasks required to complete the project and to identify all related performance objectives associated with each task.

For a detailed description of the program areas, please visit the following website: <http://www.energy.ca.gov/research>. Click on the specific R&D program area. Additional information can be found in the *PIER Program Natural Gas Program Plan and Funding Request for 2006* approved by the California Public Utilities Commission on December 15, 2005.

6. What type of work is not eligible for funding?

The following types of research and activities are **NOT** eligible for EISG funding:

1. Advanced development of concepts already proven feasible
2. Science or technology advances adequately addressed by competitive and regulated markets
3. Full-scale prototyping when subscale or bench testing would be more appropriate
4. Planning and policy studies
5. Data gathering and reporting activities
6. Marketing and promotion activities
7. Market, literature, or technology assessments/surveys

8. Demonstrations of existing technologies for public outreach/education
9. Product development, testing, or validations normally performed after research
10. Commercialization or certifications (e.g., UL Listing)
11. Research that is not PIER-related and has no clear market connection
12. Meta-analysis studies
13. Electricity research with little or no connection to natural gas generation/end use
14. Research that does not propose a clear solution to an existing energy problem
15. Research that seeks to identify a new energy problem or further define an existing energy problem with no focus on proving feasibility of a specific solution to the energy problem
16. Software development with no research or validation component

Applicants are cautioned about the development and/or use of non-commercial software for research and validation for hardware projects requiring physical testing. All proposals must have a strong validation component. Software may be used as a validated tool, only if the proposal contains convincing information that establishes the reliability and independence of the validation. Software may also be developed and used for modeling projects if the proposal uses an established standard or a device or approach that will be used to independently establish the validity of the project results. Proposals that seek to establish theoretical feasibility through computer modeling and simulation will not pass initial screening if they lack a strong validation component.

Applicants that are in doubt about the suitability of a particular subject area or type of research are encouraged to submit an informal 2-page Pre-Proposal Abstract to the EISG Program Administrator for evaluation prior to submitting a full application. See **Part 2.A of this manual for information regarding Pre-Proposal Abstracts.**

7. Can I submit more than one proposal in response to a solicitation?

Individuals, businesses, and non-profit organizations may submit only one proposal per solicitation. Academic institutions and their foundations may submit no more than one proposal from any one Principal Investigator (the individual designated by the Applicant to serve as a single point of contact for all communications) in a given solicitation. An individual cannot serve as a Principal Investigator or Project Manager on more than one EISG Natural Gas grant project at a time. An individual who is also a sole proprietor is considered a single entity for the purpose of this policy. Multiple projects cannot be proposed in a single application.

If more than one proposal is submitted, the Program Administrator will accept the first proposal received (or the first proposal logged in if more than one proposal is sent in the same package) and will return the remaining proposal(s) to the Applicant.

8. Can I submit a proposal if I am completing work under a previously awarded EISG grant?

EISG Natural Gas Awardees are allowed only one active EISG grant at a time. EISG Natural Gas Awardees cannot submit another proposal for consideration until the EISG Program Administrator has published an Independent Assessment Report on the Awardee's last grant project. An individual who is also a sole proprietor is considered a single entity for the purpose of this policy. In addition, an individual cannot serve as a Principal Investigator or Project Manager on more than one EISG Natural Gas grant project at a time.

9. Can I submit the same proposal to the EISG Electricity, Natural Gas, and Transportation programs?

No. Applicants must choose the program to which the concept is most applicable. Please visit <http://www.energy.ca.gov/research/innovations/index.html> and click on Electricity, Natural Gas, or Transportation research and review the project subject areas available for funding.

10. When can I apply and how are proposals processed?

Proposals will only be accepted by the EISG Program Administrator between the time an active EISG Solicitation Notice is posted on the program's solicitation web page and the proposal cutoff date specified in the solicitation. Proposals received by the Program Administrator before 5 p.m. on the cutoff date will proceed to the initial screening stage described in Part 2.B.2 of this manual.

11. How can I obtain assistance with a proposal?

Applicants may request assistance from the Program Administrator in completing the administrative requirements of the Grant Application Manual. The Program Administrator recommends that applicants use their local university/college as a resource to locate technical experts that may assist with proposal preparation or serve as team members or subcontractors on the project. It is the responsibility of the applicant to negotiate the financial arrangement with the individuals or businesses.

All key arrangements with team members, contractors, and facilities should be made prior to submitting a proposal for evaluation in order to accelerate the award process if selected for funding. Program Administrator staff will notify applicants if proposals contain missing elements. If the proposal passes initial screening, the Program Administrator will send the proposal out for technical review.

12. How long does it take to receive funding if selected?

It takes approximately five to six months after the cutoff date to complete the proposal evaluation, approval, and agreement execution process. Grant agreements may be in place with Awardees within four weeks of the Energy Commission's final approval of proposal funding if no delays are encountered. Work may begin as soon as the grant agreement is fully executed by the Program Administrator.

13. How long do I have to complete a grant project?

The period of performance on a grant project cannot exceed 18 months. If it is not possible to limit the proposed project to 18 months, the project may not be suitable for the EISG program.

All products, including the Final Report, must be received during the term of the grant agreement. Applicants should request a term long enough to ensure that they will not need a term extension.

14. Who do I contact for more information?

If you have any questions regarding the EISG Program, please contact the EISG Program Administrator:

EISG Program Administrator
San Diego State University Research Foundation
5250 Campanile Drive, MC 1858
San Diego, CA 92182-1858
Phone: (619) 594-1049

Fax: (619) 594-0996
Email: eisg@projects.sdsu.edu

Questions addressed to the EISG Program Administrator that have broad applicability to applicants will be posted in the “Program Questions and Answers” section of the specific EISG Program area of the following Energy Commission web site: www.energy.ca.gov/research/innovations. Click on the “Grant Details” links for Transportation, Electricity, or Natural Gas Research grants.

PART 2. ADDITIONAL INFORMATION REGARDING PROGRAM FEATURES AND REQUIREMENTS

A. Pre-Proposal Abstract

Applicants may email, fax, or mail a Pre-Proposal Abstract to the EISG Program Administrator for an evaluation of the project's applicability to the EISG Program. Assistance provided by the Program Administrator as part of the pre-proposal process serves two purposes: (1) to help the applicant avoid the effort of preparing a full application on a topic that would fail initial screening; and (2) to provide suggestions that would strengthen the proposal in the technical evaluation process. Provide as much project detail as possible.

The abstract should include at a minimum: (1) a short description of the proposed concept (one page, no specified format); and (2) the one-page Statement of Work specified in Part 3.C. of this manual. The preferred method of transmission is by email (eisg@projects.sdsu.edu) as an attached file (MS Word or PDF), or embedded in the body of the email. The Subject line for the email should state: "EISG Solicitation 14-03G pre-proposal abstract."

Assistance and advice provided during this process is no guarantee that the proposal will pass initial screening. Initial screening decisions are based on a review of the full proposal, not on pre-proposal abstracts. Pre-Proposal Abstracts may be submitted at any time up to the cutoff date below:

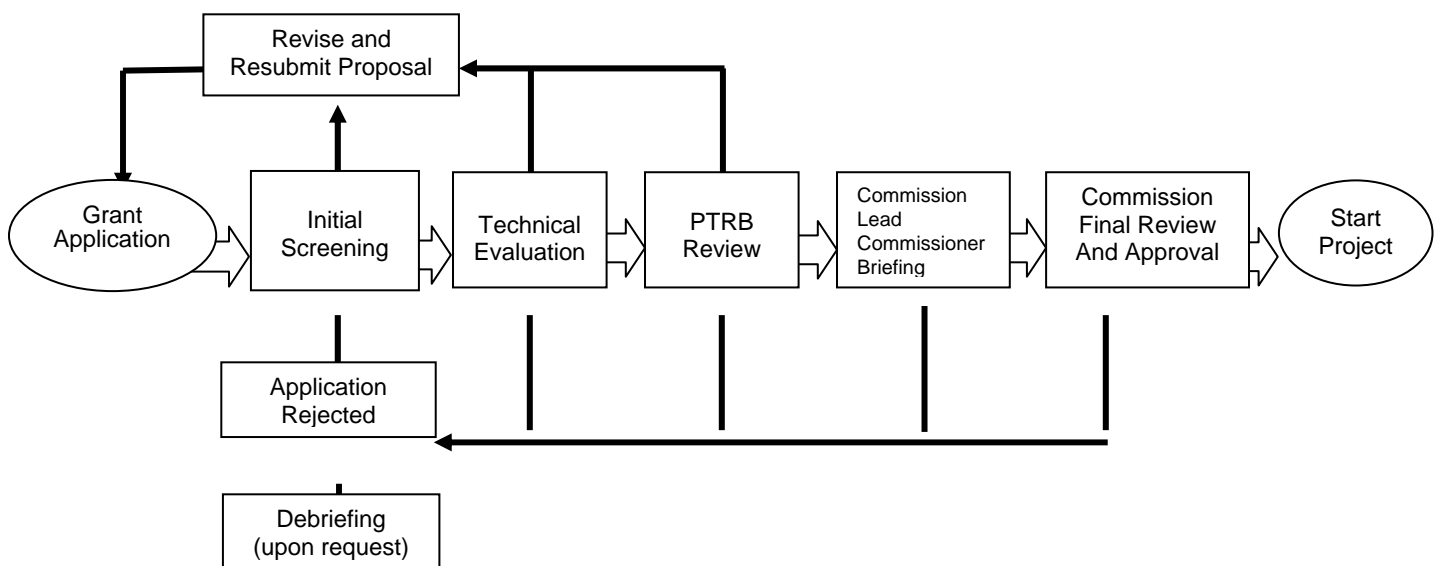
August 6, 2014

Pre-Proposal Abstracts will be reviewed in the order received and will receive a response usually within two weeks of submission. Individuals, small businesses, and non-profit organizations may submit one abstract per solicitation. Academic institutions and their foundations may submit no more than one abstract from any one Principal Investigator in a given solicitation. Abstracts not submitted in the required format will not be reviewed.

B. Grant Application Processing

Grant applications will be processed in the following phases:

Diagram 1: Grant Proposal Selection Process



1. Grant Application.

Grant applications received by the EISG Program Administrator before 5 p.m. on the published cutoff date will enter the screening/evaluation process.

2. Initial Screening.

EISG Program Administrator staff will perform an administrative pass/fail review based on the Screening

Criteria listed in Table 1 below. Staff may request clarification from the applicant if the proposal does not provide sufficient information to assess the technical merit or potential impact of the proposed innovation on the identified energy problem.

Proposals will be placed in one of the following four categories after the initial screening:

1. Satisfies screening criteria and may proceed to the Technical Evaluation stage.
2. May proceed to the Technical Evaluation stage if satisfactory clarification regarding missing data or technical detail is received by the Program Administrator no more than 5 working days after receipt of request.
3. Fails criteria, eligible for resubmission in a future cycle if revised to address noted deficiencies (Notification Letter will include the deficiencies identified).
4. Fails criteria, not eligible for resubmission for reasons that cannot be corrected by revision (Notification Letter will include the deficiencies identified).

Table 1: INITIAL SCREENING CRITERIA

SCREENING CRITERIA	PASS/ FAIL
1. The proposed research targets one or more PIER R&D areas listed below: a. Natural gas energy efficiency b. Natural gas environmental impacts c. Renewable energy technologies d. Strategic analysis e. Advanced generation concepts	PASS/ FAIL
2. The Proposal does not propose research or activities listed as ineligible in Part 1, Section 6 of this manual.	PASS / FAIL
3. The Statement of Work includes measurable performance objectives as required by Part 3.C.2 (Statement of Work, Project Tasks) of this manual.	PASS / FAIL
4. The proposed research is designed to prove concept feasibility.	PASS / FAIL
5. The proposal quantifies the benefits of the project to California natural gas consumers as required by Part 3.D.7 (Project Narrative) of this manual.	PASS / FAIL
6. Originality of the proposed research is supported by comparison to the current state-of-the-art to include existing products, processes, services, and prior research findings.	PASS / FAIL
7. The proposed research does not violate the known laws of science.	PASS / FAIL
8. The Proposal does not contain confidential information.	PASS / FAIL
9. The proposed research is not adequately covered by the competitive market.	PASS / FAIL
10. If the goal of the proposed research is to achieve a California-mandated performance objective (e.g., emissions, energy efficiency, SEER rating), it must exceed published current or future mandated performance targets.	PASS / FAIL
11. Resubmitted proposals include a Resubmission Summary (as specified in Part 2.E, Resubmitted Proposals) that adequately address deficiencies noted in prior	PASS / FAIL

evaluation. Resubmission Summaries do not count against grant application page limits.	
12. The application package is complete and contains the information required by all forms (A-G) specified in Part 3 of this manual (Grant Application Instructions).	PASS / FAIL
13. The budget (Form D) indicates that at least 80% of funds will be awarded to a California-Based Entity.	PASS / FAIL
14. The budget (Form D) indicates that at least 80% of EISG funds will be spent in California.	PASS / FAIL

3. Technical Review (TR).

Proposals that pass the initial screening will be scored by three to five technical reviewers with recognized expertise in the proposed subject area. Technical reviewers may be from academia, industry, or government.

The technical review will focus primarily on the proposal's technical merit. Technical reviewers will score proposals on the degree to which they meet each of the Technical Criteria listed in items 1-8 in Table 2 below. Scores from multiple technical reviewers will be averaged to form a single composite score with a maximum of 50 points.

The composite scores will be used to establish the proposal's preliminary rank order. These scores will be presented to the Program and Technical Review Board (PTRB). Proposals that receive a composite score below 26 from the technical reviewers will not be eligible for funding in the current cycle and will not advance to the PTRB. In order to provide additional information to the PTRB, technical reviewers will be asked to comment on: (1) market connection; and (2) similarity to pre-existing or concurrent research.

Table 2: TECHNICAL REVIEWER SCORING CRITERIA AND ALLOCATED POINTS

TECHNICAL CRITERIA	Maximum Points
1. The proposed research targets an important energy problem.	4
2. The proposed innovation will significantly impact the targeted energy problem.	4
3. The scientific approach is sound and sufficient to determine concept feasibility.	4
4. The proposed research is original, innovative, and adequately supported by comparison to the current state-of-the-art to include: existing products, processes, services and prior research findings.	4
5. The proposed concept is practical.	3
6. The project team members are qualified to perform the proposed work.	3
7. The amount and use of funds requested are appropriate for the work proposed.	3
8. Overall technical merit (taking all factors into consideration)	25
Total Technical Reviewer Points:	50
ADDITIONAL QUESTIONS	Yes/No
1. Does the proposal provide a reasonable vision of a market connection in California for the proposed technology that would benefit natural gas consumers?	
2. Is there a high probability that the same or similar research is already being funded by industry?	

4. Program and Technical Review Board (PTRB)

The PTRB is tasked with: (1) screening and scoring proposals that remain eligible after technical review; (2) reviewing EISG Program policies, procedures and documents; and (3) making recommendations for changes to the Energy Commission’s EISG Program Manager.

Approximately 12 weeks after the proposal cutoff date, the PTRB will meet to screen and score proposals that received a Technical Reviewer composite score of 26-50. The PTRB is allocated a maximum of 55 points based on the criteria shown in Table 3.

Screening

The PTRB will first review all available information on each proposal (proposal, Program Administrator input, Technical Reviewer comments, and PTRB input) and determine if the proposal still satisfies all of the screening criteria listed in Table 1. Proposals that fail one or more of the screening criteria will be disqualified from further consideration in the current cycle and will not be included in the Final Rank Order of proposals. When the PTRB disqualifies a proposal, it will also determine if the proposal is eligible for resubmission to a future solicitation.

Scoring

Proposals that pass PTRB screening will be scored by the PTRB in accordance with the criteria shown in Table 3 below.

Table 3: PTRB SCORING CRITERIA AND ALLOCATED POINTS

SCORING CRITERIA	PTRB SCORE
Technical Merit Criteria	10
1. The scientific approach is sound and sufficient to determine concept feasibility.	
2. The proposed research is original, innovative, and adequately supported by comparison to the current state-of-the-art to include: existing products, processes, services and prior research findings.	
3. The proposed concept is practical.	
4. The amount and use of funds requested are appropriate for the work proposed.	
5. The project team members are qualified to perform the proposed work.	
Programmatic / Policy Criteria	10
1. The proposed research targets one or more of California’s six Energy Policy Actions.	
2. The proposed research target an energy problem important to an Energy Action or one of the longer term research priorities of a PIER areas. Please refer to the EISG home page for PIER longer term research priorities: http://www.energy.ca.gov/research/innovations/longterm_priorities.html .	
3. The proposed innovation significantly impacts the targeted energy problem.	
4. The proposed innovation provides a potential benefit to California natural gas consumers.	
5. A viable market connection exists for the proposed innovation.	
6. The proposed research is not likely covered by competitive markets.	
7. The project is in the feasibility development stage.	
Overall Merit (taking all factors into consideration)	30
PTRB Points:	50
**Qualifying CBE Preference Points:	1-5
Maximum PTRB Points:	55

5. Final PTRB Rank Order and Funding Recommendations.

The PTRB scores are added to each proposal's prior composite technical review score to establish each proposal's final composite score (max. 105 points). The final composite score is used to create the final rank ordered list of proposals. Based on available funding and the quality of the top ranked proposals, the PTRB will recommend one or more funding cutoff lines. The funding recommendations are forwarded to the Energy Commission's EISG Program Manager. Program Administrator shall not release the Final PTRB Rank Order and Funding Recommendations without prior approval of the EISG Program Manager.

Those recommended for funding will need fact sheet write ups prior to Energy Commission Lead Commissioners Briefing.

6. Energy Commission Lead Commissioner Briefing (LCB)

The Energy Commission's EISG Program Manager will present the PTRB's recommendations at an LCB. The purpose of the LCB is to ensure that the PTRB's grant recommendation process is based on fair and unbiased procedures. Based on the PTRB's recommendations and Energy Commission program considerations, the Lead Commissioner may provide advice and guidance to the Energy Commission's EISG Program Manager. The Energy Commission may disapprove any or all grant project recommendations for reasons that may include the following:

- (a) The project is counter to the development and implementation of a robust public interest RD&D portfolio of projects that address California's energy needs through any of the PIER subject areas;
- (b) The project is counter to the objective of balancing risks, timeframes and public benefits in a manner consistent with California's energy policies;
- (c) The project is counter to the objective of creating a public interest RD&D knowledge base and disseminating information that will allow citizens, businesses, government and other entities to make informed decisions concerning energy technologies and services;
- (d) The project is counter to the objective that the public interest RD&D program is to be connected to the market;
- (e) The project is counter to the energy policies of the State of California.¹
- (f) The applicant's prior performance on a PIER-funded project was unsatisfactory with regard to budget, schedule or reporting performance.
- (g) The proposed project fails one or more screening criteria identified in the Grant Application Manual.

Any proposal disapproval will not affect the score of any other proposal.

7. Energy Commission Business Meeting

The list of grant projects will be considered for approval at a regularly scheduled business meeting. The Commission reserves the right to reject any or all of the grant project recommendations.

Energy Commission approval of grant projects is anticipated to occur within 20 weeks of a particular solicitation cutoff date. Another two to four weeks is required to execute grant agreements on projects that received funding approval. Projects that receive full Commission approval for funding will be

¹ Policies for PIER and for energy in California are expressed in policy documents and in statute. Important statutes are Public Utilities Code, sections 399 and 25620. Important policy reports are the Integrated Energy Policy Report (http://www.energy.ca.gov/2005_energypolicy/index.html), the Energy Action Plan II (http://www.energy.ca.gov/energy_action_plan/index.html), and the Five-Year Investment Plan, 2007 Through 2011 for the Public Interest Energy Research (PIER) Program (<http://www.energy.ca.gov/2006publications/CEC-500-2006-016/CEC-500-2006-016-D.PDF>. CPUC decision, D. 04-08-010 (http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/39314.doc)

posted on the EISG Program area of the Commission's website within five business days after the business meeting action, and will receive an award letter within one to two weeks.

C. Unfunded Proposals and Status Letters

Applicants whose proposals were not funded will receive a Status Letter from the Program Administrator that summarizes the proposal's status and indicates whether it is eligible for resubmission. If the proposal has advanced to technical review, the letter will include the proposal's relative standing and copies of the technical reviews. Proposals are not eligible for resubmission if they failed three times or advanced to technical review in two solicitations and were not selected for funding.

All materials submitted in response to an EISG solicitation become the property of the State of California for disposition purposes. With the exception of a file copy that is retained for future reference, all extra copies of the grant application will be shredded at the end of the evaluation process.

D. Grant Applicant Feedback

An applicant eligible for resubmission may request a debriefing regarding an unfunded proposal in the following ways:

1. By emailing the Program Administrator to schedule a phone meeting to discuss the proposal.
2. By submitting a list of questions or issues to the Program Administrator via letter or email within 30 days of receiving the Status Letter. The Program Administrator will respond to these inquiries via letter or email within 30 days.

E. Resubmitted Proposals

Applicants who resubmit a proposal that was not funded in an earlier solicitation must satisfy the following requirements:

1. Receive a Status Letter from the Program Administrator that states that the proposal is eligible for resubmission.
2. Comply with all requirements specified in the applicable grant application manual. Applicants may not use the grant application manual that applied to the original submission.
3. Submit an electronic copy (via email in Word or PDF format), and mail or hand deliver one original and 3 copies of the revised proposal. Indicate on Form A, Item h, of the grant application the proposal number(s) assigned to prior submission(s) related to the same concept.
4. Provide a Resubmission Summary (5 pages max.) in table or outline format that identifies and responds to all concerns noted in the previous technical reviews of the proposal (see sample table format below).

SAMPLE RESUBMISSION SUMMARY

Program Administrator's Concerns	Applicant's Responses	Section of Application/ Page Number
1) Project team lacks experience in fuel	Added Dr. Smith to team, see attached	Form E

cells.	resume.	
2) Theory of operation was not explained with sufficient technical detail to enable assessment of its technical merit.	Added expanded technical description of theory of operation.	Project Narrative Pgs. 4-5
3) The material to be tested was already evaluated by Dr. Smith.	<i>Rebuttal:</i> Dr. Smith only tested for properties A & B whereas this project will look at properties C& D.	N/A

A Resubmission Summary that fails to adequately address all concerns noted in the prior evaluation will be sufficient grounds to **fail Initial Screening**. The Resubmission Summary pages do not count against page limits. Resubmitted proposals that had advanced to technical review in the prior submission are sent back to the original technical reviewers (if possible) for rescoring based on the additional information in the proposal and Resubmission Summary. For proposals that failed Initial Screening in the prior submission the Resubmission Summary will be reviewed by the EISG Program Administrator staff only and will not be sent to the technical reviewers.

F. Policy Regarding Funding for Research, Development, and Demonstration Projects

The EISG Program serves as a one-time funding source for projects that establish initial concept feasibility. The PIER program funds the research, development, and demonstration phases of projects. Past performance on EISG grants will be considered in any future request for funding through the PIER Program.

G. Intellectual Property Rights (for funded projects)

Copyrightable material and all patent rights for inventions conceived or first actually reduced to practice in the course of the grant project will be the property of the Awardee, subject to the State retaining certain limited use rights (see Model Grant Agreement document for details). The Awardee must disclose all such inventions to the EISG Program Administrator, on a confidential basis.

All materials submitted in the performance of the grant will become the property of the State of California for disposition purposes.

PART 3. GRANT APPLICATION INSTRUCTIONS

A. Submission Instructions

The grant application (and not the Pre-Proposal Abstract) will serve as the official submittal to the EISG Program Administrator for formal evaluation and scoring. Include all information necessary to adequately review the proposal, including all information requested in this manual. Do not incorporate by reference information contained in the Pre-Proposal Abstract, videotapes, or other materials.

Electronic submission in addition to one original and three copies of the grant application must be received no later than 5 p.m. on the “Close Date” listed on the cover of this manual. Mail completed grant applications to appropriate address below:

- a. **Address if sent by U.S. Post Office (please allow least 4 days for Priority Mail and 7 days for Parcel Post):**
EISG Program Administrator
San Diego State University Foundation
5250 Campanile Drive, MC1858
San Diego, CA 92182-1858
- b. **Address for FedEx, Express Mail, UPS or hand delivery:**
EISG Program Administrator
6495 Alvarado Rd., Suite 103
San Diego, CA 92120
Phone: (619) 594-1049

Proposals received after the close date will be returned. Proposals must **not** be mailed or delivered to the Energy Commission offices in Sacramento, California.

1. Instructions for Electronic Submission:

- a. The Subject line for the email should state: “EISG Solicitation 14-03G proposal.”
- b. The body of the email must identify the Principal Investigator and the title of the proposal, and should state the following: “The attached application constitutes [Institution Name]’s official submission of a proposal in response to EISG solicitation 14-03G”.
- c. The email must give the title of the authorized institutional representative (e.g., Contracts and Grants Officer), and provide contact information including address, phone, and fax.
- d. Proposals should be electronically (Microsoft Word preferred) submitted as **one file**.
- e. File size should not exceed 10MB without notifying the EISG Administrator to make accommodations.
- f. Letters of support and briefing slides may be sent as an additional PDF file.
- g. If you do not receive an email confirmation from the EISG Administrator within one business day of electronic submission, you must call the Program Administrator to confirm that your electronic application was received before the deadline. If an applicant claims to have submitted an electronic proposal but no confirmation notice was sent by the EISG Administrator, the proposal will not be accepted.
- h. Proposals sent to the California Energy Commission will not be accepted. Fax copies will NOT be accepted.

2. Instructions for Hard Copy Submission:

- c. Submit one original, signed hard copy and three copies to the Program Administrator at the appropriate address listed below.
- d. Pages must be single-sided.

- e. The original copy should be bound only with a spring clip. **No covers or other types of bindings are allowed.**
- f. The three copies should be bound only with a staple in the upper left corner. **No covers or other types of bindings are allowed.**

B. Checklist

The application package **must be assembled in the order shown in the checklist below.** Instructions for filling out the forms are provided with each form:

- Form A: Grant Application Cover Page** (*signed and dated*)
- Project Summary (*1 page max, insert page break after project summary*)
- Statement of Work (*1 page max, outline format, insert page break after SOW*)
- Project Narrative (*10 pages max.*)
- Appendices to Narrative (*optional - 10 page max.*)
- Form B: Certifications & Disclosures**
- Form C: Project Schedule / Deliverables**
- Form D: Proposed Budget Summary** (*attach short budget narrative itemizing expenses and funds spent in California*)
- Form E: Project Personnel**
- Key Personnel Resumes (*A maximum of two pages per person/organization. Required for Project Investigator and Project Manager if they are separate individuals, optional for other team members.*)
- Form F: Status of Research Effort** (*filled in form should not exceed 2 pages*)
- Form G: California-Based Entity Form**

The following items should be loose or clipped to the cover letter and not bound with the proposal copies:

- Cover Letter (*Optional*)(*one copy*)
- Resubmission Summary (*5-page max.*) (*Resubmits only-see Part 2.E. for details*)(*4 copies*)
- Briefing slides for PTRB (*Optional*) (*3 slides max.*)(*1 paper copy only*)

Proposals that pass initial screening and score 26 and higher in technical review will be briefed to the PTRB members prior to their scoring. Grant applicants have the option to provide up to 3 paper slides (B&W or color) that can serve as a visual aid to assist the PA staff in briefing the project to the board members. Pictures, drawings or graphical representations of complex designs or processes are most useful. Word slides are of little value and may not be used. Since the technical reviewers will not see the slides they should not be referenced in the proposal unless the slides came from the proposal.

This is the applicant's opportunity to provide information that would help the board members to quickly visualize the work being proposed. A color camera overhead projector will be used to project the paper slides which cannot exceed 8.5" x 11" in size. They can be in either landscape or portrait orientation. If no slides are provided, the PA will select the most appropriate pages out of the proposal to display.

C. Description of Application Documents

1. Grant Application Cover Page (Form A)

Please see Form A instructions.

2. Project Summary

Requirements:

- Page limit: one page
- Margins: no less than 1”
- Font size: no smaller than 12 pt
- Spacing: Single or double-spaced
- Title the page “Project Summary” followed by the project title and name of the Principal Investigator

Provide a summary description of the grant project. The project summary should summarize the key items requested in the recommended narrative format specified in Part 3.C.4 below, with particular emphasis on any new innovations that will be tested as part of the project. The project summary must be on its own dedicated page.

The description should be written at a level that can be understood by the general public with sufficient information to stand on its own.

3. Statement of Work

Requirements:

- Page limit: one page
- Margins: no less than 1”
- Font size: no smaller than 12 pt
- Spacing: Single or double-spaced
- Title the page with “Statement of Work” followed by the project title and name of the Principal Investigator

Provide a Statement of Work in outline form that identifies the project goal and project tasks (with performance objectives) and reporting requirements, as detailed below. The Statement of Work must be on its own dedicated page.

a. **Project Goal:**

The goal statement must identify the specific feasibility issue(s) being addressed in this project. The goal statement must start with the words “*The goal of this project is to determine the feasibility of....*”. Below are sample goal statements:

- (1) *The goal of this project is to determine the feasibility of using a segmented gas turbine surface burner to increase combustion stability across the full operating range to further reduce emissions.*
- (2) *The goal of this project is to determine the feasibility of using a torque based airflow measurement device to more accurately measures airflow in ventilation systems.*
- (3) *The goal of this project is to determine the feasibility of a low-cost circuit design that allows central air conditioners with three phase motors to operate on single-phase power with a 10% energy savings.*

b. Project Tasks - Performance/Cost Objectives:

Create a two-column table as shown in the sample below with the first column labeled “Project Tasks” and the second column labeled “Performance/Cost Objectives”. Applicants must evaluate each task to identify any performance/cost objectives associated with the task that will be validated during the project. Tasks typically start with words such as: fabricate, build, assemble, design, complete, optimize, modify, analyze, evaluate, conduct, perform, identify, develop, acquire, install, prepare, test, run, determine, formulate, create, select, integrate, and operate.

All primary tasks identified should also be listed in the Project Schedule (Form C).

Performance or cost objectives are mandatory for all tasks in which performance or cost objectives are possible. The performance objectives serve as objective benchmarks that determine project success and serve as the foundation of the Final Report. **Proposals that fail to identify measurable performance objectives will fail initial screening.**

Performance objectives must have a numeric or qualitative performance target to be listed as a performance objective. If it reads like a task, it belongs on the left side of the table – no exceptions. The following is a list of sample performance objectives that meet the stated criteria:

Samples of measurable (numeric targets) Performance Objectives

- (1) Demonstrate that the test setup and test protocols will measure the pressure and temperature conditions with an error of +/- 5%.
- (2) Demonstrate that the computer model/simulation represents reality within an error of +/- 10%.
- (3) Demonstrate that the proposed sensor is capable of measuring methane concentrations from 10%-80% volume with +/- 2% accuracy across the measurement range.
- (4) Demonstrate the capability of the proposed 2-stage digester to produce a H₂ to CH₄ volumetric ratio of 3 to 1.
- (5) Demonstrate an overall digester retention time of less than 4 hours to achieve the targeted methane production.
- (6) Demonstrate that the proposed process is capable of converting 95% of the organic matter in the feed material to gas.
- (7) Demonstrate that the proposed roofing material will maintain the roof deck at no more than 10 degrees above ambient temperature.
- (8) Demonstrate that the proposed motor can function in a temperature range of –30 deg C to 125 deg C.
- (9) Confirm that the proposed manufacturing process can reduce the number of manufacturing steps from 10 to 6 and reduces manufacturing time by 20%.

Samples of qualitative Performance Objectives

- (1) Confirm through visual inspection that no visible signs of corrosion, erosion or deposition are present in the combustion chamber after 500 hours of operation.
- (2) Achieve an aesthetically pleasing appearance for the proposed building integrated PV system as confirmed by a randomly selected test group of potential consumers.
- (3) Demonstrate that the proposed thin film manufacturing process is capable of producing a uniform nanostructured film as confirmed by microscopic analysis.

- (4) Demonstrate that the proposed motor can be operated in any orientation without impact on performance.
- (5) Demonstrate that the prototype fluorescent lamps provide equivalent or superior visual performance with fewer radiant watts than existing fluorescent lamps as confirmed by randomly selected test subjects.

c. Reporting Requirements: Under this heading enter the statement “*Submit Progress Reports and Final Report in accordance with the proposed Project Schedule/Deliverables Chart.*”

Below is a sample of the required format for the one-page Statement of Work:

Sample Statement of Work
Energy Efficient Rotary IC Engine with Low Emissions
John Smith, Principal Investigator

Project Goal: The goal of this project is to determine the feasibility of using new low friction seals and a new bearing design to increase engine efficiency and reduce emissions below mandated levels for stationary power generation.

Project Tasks	Performance / Cost Objectives
1) Finalize system design. a) Complete CAD drawings.	
2) Fabricate 2 subscale prototype devices.	1) 1 st prototype will demonstrate 5kW capacity 2) 2 nd prototype will demonstrate 10kW capacity
3) Fabricate a test stand. a) Install instrumentation to record X and Y parameters.	Demonstrate that the test stand is capable of measuring X and Y parameters within an error of +/- 5%.
4) Finalize test plan. a) Obtain EISG PA approval of test plan.	
5) Conduct Prototype testing. a) Conduct static testing. b) Conduct dynamic testing.	1) Demonstrate NOx emissions of less than .07 lb/MW-hr (emission targets must be in lb/MW-hr). 2) Demonstrate engine efficiency between 40-45%. 3) Demonstrate that device can operate at least 500 hours without failure.
6) Perform manufacturing cost analysis.	Confirm from the project findings that the projected manufacturing cost of \$500/kW capacity continues to be supported.
7) Perform life cycle cost analysis.	Confirm from the project findings that the projected life cycle cost of power generated from the proposed device of \$.05/kWh continues to be supported.

Reporting Requirements:

Submit Progress Reports and Final Report in accordance with the proposed Project Schedule/Deliverables Chart.

4. **Project Narrative**

Requirements:

- Page limit: 10 pages (not counting reference list or acronyms list)
- Margins: no less than 1”
- Font size: no smaller than 12 pt
- Spacing: Single or double-spaced
- Pages must be printed single-sided
- Title the page with “Project Narrative” followed by the project title and name of the Principal Investigator

Provide a project narrative no more than 10 pages in length that describes the project plan in detail. Key supporting documents referenced in the narrative such as photos, charts, drawings, blueprints, graphics, letters of support, and excerpts from key articles may be included as appendices to the project narrative. **Appendices are restricted to a maximum of 10 pages.**

The project narrative **must address** the content items identified below. However, the applicant may determine the sequence in which the information is presented. Project narratives that cite past research, trade publication articles, etc. must include a reference list. If the project narrative contains acronyms an acronym list must be included.

Applicants should take into consideration the evaluation criteria listed in Part 2.B. when writing the narrative. Applicants are encouraged to obtain letters of support from industry that express interest in the technology being proposed since such letters hold significant weight when evaluating the concept’s market potential, particularly when the proposed concept targets a narrow market niche or proposes an unconventional alternative to existing technologies. Market connection can also be supported by trade journal articles, market surveys or letters of support from members in the target market (architects, home owners, building contractors, HVAC contractors, manufacturers, etc.) who are familiar with the concept being proposed.

Project Narrative Content

1) Project Goal

- (a) Briefly describe in one or two sentences the concept feasibility issue(s) that will be addressed in the project. If the proposed technology feeds into a larger development effort provide the context for how this work fits into the larger project.

2) State-of-the-Art

- (a) Summarize the relevant results of a current literature/Internet search. Point out where your work will extend the existing knowledge base. This is a very important area that can make or break a proposal in the evaluation process.
- (b) Compare existing products, processes, and/or services that perform the same or similar functions as the proposed concept. Clearly show the relevant differences (i.e. cost,

reliability, efficiency, functions etc.). Recommend comparison data be placed in table format when practical.

3) Energy Problem Targeted

- (a) Identify the energy problem that is being addressed.
- (b) If the proposed research targets a PIER research issue identify the connection.

4) Primary Project Tasks and their associated Performance Objectives

- (a) Discuss the project tasks from the Statement of Work in greater detail and discuss the significance of the performance objectives as they relate to the current state of the art.

5) Technical Feasibility Issues

- (a) Identify the technical obstacles that this project seeks to overcome.

6) Proposed Innovations

- (a) Identify the specific innovations that will be tested in this project. The more creative and innovative the proposed solutions, the more competitive the proposal will be.
- (b) Provide sufficient technical details to assess the concept's technical merit. This includes drawings and illustrations where appropriate to supplement written descriptions.

7) Impact on Energy Problem / Benefit to California natural gas market

- (a) Quantify the potential impact to the natural gas consumer in terms of savings due to reduced cost, reduced consumption, emissions reduction, increased reliability, improved product features etc.
- (b) Quantify the potential benefit in terms of energy and cost savings to the state of California as a whole. Cite the source of any statistical information that you use, including web URLs if pulled off the web.

8) Market Connection

- (a) Identify who would adopt, benefit, manufacture, sell or buy the results of the innovation if proven feasible.

5. Certifications and Disclosures (Form B)

Please see Form B instructions.

6. Project Schedule (Form C)

Please see Form C instructions.

7. Proposed Budget Summary (Form D)

Attach a short budget narrative to Form D (Proposed Budget) to itemize and explain any expenses listed in lines 3.a. – 3.d. (travel, facilities lease, equipment rental, major equipment purchase). Line 3.d. (Major Equipment Purchase) is reserved for items with a unit cost greater than \$5,000. If an indirect expense is charged, indicate in the budget narrative how it was calculated showing actual expenses. Explain any unusually large budget items.

Since a minimum of 80% of the EISG funds need to be spent in California, indicate in the budget narrative which items will be spent in California, and show the total percentage of funds spent in California.

1. Direct Expenses: Salaries, Wages and Fringe Benefits

Labor expenses accrued by the Awardee and team members during the term of the grant agreement are allowable to the extent that they meet the following criteria:

- (a) The compensation is reasonable for each individual's skill level and experience and conforms to consistently applied compensation policies of the individual's organization.
- (b) Fringe benefits are allowable as a direct cost (if not included as an indirect cost) in proportion to the salary charged to the grant and provided the expense is based on formally established and consistently applied compensation policies of the individual's organization. If a student receives compensation for hours worked and tuition fees show the tuition as a separate line in Section 1 of Form D (Proposed Budget). A maximum of one graduate student tuition remission for one year is allowed. Applicants who apply as an "*Individual*" cannot charge Fringe and should show a fully loaded hourly rate instead.

2. Indirect Expenses

Small businesses, non-profits and academic institutions that choose to recover indirect costs must use an approved rate from an authorized agency such as the Defense Contract Audit Agency (DCAA) up to a maximum rate of 25%. If the indirect rate has not been approved by an authorized agency, then a maximum indirect rate of 20% based on actual costs will be allowed on this grant.

For the purpose of this program, general and administrative (G&A) is included as an indirect cost. **Organizations claiming an indirect rate must submit a budget narrative that is attached to Form D (Proposed Budget) that explains how the indirect cost was calculated along with supporting documentation.** Failure to provide supporting documentation will result in disallowance of indirect costs.

Organizations that do not claim an indirect rate and individuals may charge as a direct expense the incremental cost of obtaining the insurance coverage specified in Article XII of the Model Grant Agreement. Applicants that propose to cost share some of the project expenses must also cost share any indirect associated with the cost shared amount.

3. Unauthorized Expenses

The following costs are NOT allowed in EISG projects:

1. Costs incurred by applicants in preparing proposals (including travel and personal expenses), project debts or costs incurred before Commission approval and the effective date of the grant agreement.
2. Costs for lobbying or attempting to influence any public official.
3. Costs associated with protecting intellectual property.
4. Cost to offset obligations of individuals or work not associated with the approved project.
5. Procurement of general-purpose equipment (e.g. general-purpose computers, software, fax machines, copiers, office furniture and tools).
6. Cost of news releases announcing the results of an EISG project.

7. Relocation costs of employees or staff members.
8. Financial aid, scholarships, or fellowships, except when paid under established campus policy as part of the compensation for research performed in the EISG project during the term of the contract.

4. Consultant Services

Payments to consultants are allowed provided the costs are reasonable and commensurate with the services provided and are included and itemized in the approved budget for the grant. There are no restrictions on who an applicant can subcontract with or how much work may be subcontracted out provided the subcontracts include the carry through clauses specified in the grant agreement (drug free workplace, debarment, intellectual property, etc.). **Cost estimates/quotes from consultants/subcontractors must be submitted with the proposal.** The letters should outline their tasks for the project with an estimated cost.

Each consultant that is a California Based Entity (CBE) needs to complete the CBE Form in Form G. This includes individuals or sole proprietorships. However, individuals or sole proprietorships do not need to register with the California Secretary of State (item 8 on Form G).

5. Travel Costs

Travel costs of Awardees are allowable if they are required to conduct the research and are reasonable for a small grant effort. Conference travel is allowable if it occurs towards the end of a project for the purpose of presenting a paper on the results of the research. Applicants should consider cost sharing conference travel in excess of \$1500 or risk having the travel deleted from the budget. For travel to be reimbursed it must occur within the term of the project as specified on the grant agreement. The purpose of each travel trip must be specified in the budget narrative that is attached to Form D. Reimbursement of travel expenses will be in accordance with the guidelines contained in the grant agreement. Total travel costs over \$3,000 may be considered excessive for a small grant depending on the nature of the research. Applicants should consider cost sharing excessive travel costs since it may be considered an inappropriate use of grant funds in the review process.

6. Facility Lease/Modification

The cost of leasing or renting commercial workspace is acceptable, however, individuals cannot charge rent for any portion of their private residence and a business that charges an indirect rate cannot charge a lease expense for space or equipment that they already own. EISG grant funds cannot be used to fund construction or facility improvements. However, rearrangement and alteration costs to adapt space or utilities within a completed structure to accomplish the objective of the grant-supported activity, that do not constitute construction, and aggregate to less than \$10,000, may be allowable provided that the requirement is clearly defined in the budget narrative.

7. Equipment Rental or Lease

The cost of renting or leasing equipment is allowable provided the charges are reasonable and itemized and explained in the budget narrative.

8. Major Equipment Purchase and Disposition (unit cost of \$5,000 or more)

Within the EISG Program, major equipment is defined as non-expendable, tangible property, which has an acquisition, cost of \$5,000 or more per unit. All major equipment that applicants intend to purchase with grant funds must be included in the budget and itemized in the budget narrative that is attached to

Form D (Proposed Budget Summary). All equipment with a unit cost of \$5,000 or more will be purchased exclusively by the EISG Program Administrator and will be subject to the following terms and conditions:

- (a) Title to all non-expendable equipment purchased with EISG Program funds shall remain with the State of California (California Energy Commission).
- (b) The Awardee shall assume all responsibility for maintenance, repair, destruction and damage to equipment while in the possession of or subject to the control of the Awardee (costs for maintenance and insurance may be borne by the grant).

Major equipment purchases will be considered allowable as direct costs provided the equipment is:

- (a) Necessary for completing the primary objectives of the grant research.
- (b) Renting or leasing the equipment at lower cost was not an option.

Upon completion of the project or termination of the grant contract, the Commission may:

- (a) Request that such equipment be returned to the Commission with any costs incurred for such return to be borne by the Commission.
- (b) By mutual agreement, permit the EISG Program Administrator or Awardee to purchase such equipment for an amount not to exceed the residual value of the equipment as of the date of termination of the grant agreement.
- (c) Transfer ownership of equipment to the EISG Program Administrator, an academic institution or the Awardee. If an Awardee desires to obtain ownership of the equipment a request must be submitted at the end of the project that includes a description of how the equipment in question would be used to further energy research.

9. Final Report

\$5,000 will be withheld pending receipt and approval of the final report and any outstanding deliverables.

10. Materials, Supplies, Equipment and Miscellaneous Expenses

Standard materials, supplies, equipment and miscellaneous expenses are allowed that are typical for a grant research project. This budget line is used to identify all remaining expenses that are not covered by the other budget lines. Line 3.e.(1) should be used to consolidate all small expenses with a unit cost less than \$100.

General-purpose equipment (i.e., computers, printers, furniture, test equipment, tools, software) may be rented but not purchased unless renting is more expensive or not practical. In those instances where a case can be made for purchasing general-purpose equipment, provide the rationale in the budget narrative. General-purpose equipment that is purchased must be listed as a deliverable on Form C. Disposition of general purpose equipment at the end of the project will be determined by the Program Administrator. General-purpose equipment such as computers that are needed for performing experimental functions such as data logging may be purchased and need not be listed as a deliverable. General-purpose equipment and supplies may not be purchased if the items are included in the indirect calculation.

8. Project Personnel (Form E)

Please see Form E instructions.

9. Status of Development Effort (Form F)

Grant applicants are required to complete Form F “Status of Research Effort” as part of the grant application. The purpose of this form is to help the EISG program administrator understand what development activities have already been completed and to determine if the proposed work is at the appropriate stage of development for the EISG program. Concepts must be sufficiently developed to provide a clear well defined solution to an energy problem and in most cases be ready for initial subscale or bench scale prototype fabrication and testing but not developed beyond early proof of concept. Some exceptions are allowed in cases where development has advanced beyond initial prototyping but continues to have technical problems that need to be solved to be commercially viable.

Part 4. GRANT AWARD AGREEMENT

A. Grant Agreement

Once a grant is approved for funding by the Commission, the EISG Program Administrator will send an award notification letter to the applicant containing the following: (a) a list of any outstanding issues that need to be resolved prior to executing the agreement; (b) request for name and address of the individual with signature authority, (c) request for insurance certificates, and (d) guidelines for obtaining vendor bids on project equipment, if applicable. The agreement will be mailed under separate cover once all outstanding issues have been resolved and incorporated into the agreement. The agreement must be signed by both parties before work expenses can be reimbursed.

Any requests for modifications, changes, additions, or deletions from the terms and conditions in the Model Grant Agreement must be included as part of the grant application and require written approval from the Program Administrator prior to being incorporated into the final agreement. Grant applicants are required to certify on Form B of the application that they have reviewed the standard terms and conditions contained in the Model Grant Agreement that is available for viewing and downloading from the EISG Solicitation web page. Requests for significant modifications to the grant contract may be grounds for application rejection. The grant agreement will incorporate by reference the grant application manual, the proposal, and any addenda to the application (including correspondence to or from the Program Administrator that specify modifications or restrictions). Failure to agree to the terms and conditions and requirements of the grant agreement are grounds for withdrawing the award.

B. Grant Performance

1. Reimbursement Invoices

EISG grant funds are distributed only for reimbursement of project expenses. Invoices for reimbursement should be submitted on a regular basis to the EISG Program Administrator for periods not less than one month and not greater than every three months. Invoices must be delivered within 30 days of the end of the invoice period. Advances on grant funds will not be allowed. Reimbursement invoices submitted to the Program Administrator will be paid within 30 days of receipt, unless contested. The Program Administrator retains the right to withhold payment for the following reasons: (a) progress reports are not current; (b) progress reports contain insufficient detail to assess Awardee's progress or (c) there is evidence of lack of performance.

2. Deliverables

Awardee must submit all deliverables to the EISG Program Administrator as specified in Form C and the grant agreement. The minimum required deliverables include:

- (a) Progress Reports: A progress report is required for every three-month interval starting from the start date on the grant agreement and is required for the duration of the agreement. Progress reports must be delivered within 30 days of the end of each reporting period or will be considered late.
- (b) Final Report: A draft report is submitted first for review and comments (in the format specified in Exhibit D of the model grant agreement). The EISG Program Administrator will review the report and provide written comments and recommendations. After making the recommended changes the final report is delivered.

3. Tax and Legal Issues

If in doubt, Awardees should consult with legal and tax advisors (at the Awardee's expense) to fully understand the legal and tax obligations incurred when entering into a grant contract.

California Energy Commission
Energy Innovations Small Grant (EISG) Program
GRANT APPLICATION COVER PAGE
Natural Gas Program

FORM A

a. Project Title: _____

(not to exceed 10 words)

b. Project Subject Area: *(Indicate the one that most applies)*

- Building End Use Energy Efficiency
 Natural Gas Infrastructure
 Industrial Agriculture & Water Sector End Use Efficiency
 Renewable Energy Technologies
 Energy Related Environmental and Climate Change

c. Applicant Category:

- Individual
 Academic Institution
 Business
 Non-Profit

d. Grant Funding Requested: \$ _____ Hardware \$150K Modeling \$75K

e. Proposed Project Duration: _____ *(maximum duration 18 months)*

f. Principal Investigator/Project Manager: *(serves as single point of contact for all communications)*

Name: _____	Address: _____
Phone: _____ Fax: _____	
Email: _____	
Organization: _____	
Position/Title: _____	

g. Application Status *(include only prior submissions on same concept)*

- First Submission
 Second Submission
 Third Submission

Provide the _____ proposal number(s) assigned to _____ prior submission(s): _____

h. Indicate the Solicitation Number Listed on the Solicitation Notice:

i. Indicate the Solicitation Number Printed on the Application Manual Used:

_____ *(the solicitation numbers listed in items h and i must match)*

j. Principal Investigator/Project Manager Certification: To the best of my knowledge, I certify that the information contained in this grant application package is true, and discloses all requested information.

Principal Investigator/Project Manager Signature: _____

Date: _____

Reserved for EISG Program Administrator Use		
Solicitation	Date Received	Proposal Number Assigned
14-03G		

FORM A INSTRUCTIONS

Grant Application Cover Page

- Item a: Project Title**
Provide a title for the project that is descriptive of the proposed work. The title must communicate the type of work being proposed. Avoid trademarked names and acronyms that are not well understood by the general public. **The title shall not exceed 10 words.**
- Item b: Project Subject Area**
Check the one box that corresponds to the PIER R&D area that is most representative of the proposed work. *To check a box in MS Word double click on the check box and select “checked” in the menu that appears.*
- Item c: Applicant Category**
Check the one box that represents the category you are applying for a grant under. The applicant categories are defined in Part I of this manual. The category marked in Item c must match the information certified on Form B.
- Item d: Grant Funds Requested**
Specify the amount of grant funds requested for use by the Awardee. This amount must match the amount shown on Form D, line 6, column “EISG Funds Requested” and cannot exceed \$150,000 for hardware projects or \$75,000 for modeling projects.
- Item e: Proposed Project Duration**
Specify how many months you need to complete the project. The project’s duration cannot exceed 18 months. Include the time it takes to complete the final report after all data collection and analysis functions have been performed.
- Item f: Principal Investigator/Project Manager**
In most cases the PI also serves as the Project Manager. If this is not the case then list the Project Manager in item f and identify the PI on Form E (Project Personnel).
- Item g: Application Status**
Indicate if this is your 1st, 2nd or 3rd submission of the same or similar energy concept. If this is a second or third submission, provide the proposal number(s) that were assigned in the earlier solicitations (proposal number was annotated on postcard and status letter notifications). Failure to identify prior submissions and provide a resubmission summary is grounds for failing initial screening.
- Items h and i: Solicitation Number**
The solicitation number listed on the solicitation notice that you are responding to must match the solicitation number printed on the cover of the Grant Application Manual used to fill out the application.

Item j: PI/PM Certification: Signature and date of Principal Investigator/Project Manager.

California Energy Commission
Energy Innovations Small Grant (EISG) Program
CERTIFICATIONS & DISCLOSURES

FORM B

a. APPLICANT ELIGIBILITY CERTIFICATION

- Individual** Must be acting independently. If employed or affiliated with an organization, applicant has authorization from the organization to pursue grant research exclusively as an individual with no rights reserved to the organization. The individual, not the organization, retains all intellectual property rights accrued from the grant project.

If employed by or affiliated with an organization or business, specify in the space below any financial interest the organization or business has in the proposed project:

- Business**
- Non-Profit Organization** Possess IRS tax exemption. Non-profit organizations that are already under contract to the Energy Commission to perform PIER related work outside of the EISG Program are prohibited from applying to the EISG Program.
- Academic Institution** Public or private postsecondary institutions.

b. FINANCIAL AND LEGAL CERTIFICATIONS

- The Principal Investigator and any team members, organization or business participating in this proposal have reviewed the terms and conditions contained in the model agreement. If there are any terms or conditions that you cannot agree to, then you must submit with the application a written request for changes to the standard terms and conditions.
- The Principal Investigator/Project Manager and any organization/business participating in this proposal, have not declared bankruptcy in the last seven years.
- The grant applicant acknowledges that all costs associated with proposal preparation are borne by the applicant and that receipt of a proposal by the EISG Program Administrator does not constitute a contractual relationship with the grant applicant.

c. MULTIPLE AWARDS FOR THE SAME OR SIMILAR RESEARCH

- The applicant will not seek or obtain reimbursement from more than one funding source for the EISG-funded work.
- The applicant has disclosed in Form F, item 16, any past or current funding received from any State or Federal agencies (such as PIER, SBIR, DOE) for work that is similar or related to the research proposed in this grant application. The applicant's performance on previous related research will be a factor in evaluating this application.
- In the event the applicant receives an EISG grant, it will notify the EISG Program Administrator if it enters into a concurrent contract that requires the same, similar, or related research as proposed in this application, and will limit reimbursement from the EISG Program to costs that are not covered by other awards.

d. CONCEPT ORIGINALITY

- The applicant has performed a thorough search of the existing published literature and patents and determined that the proposed concept is original.

FORM B
INSTRUCTIONS
Certifications & Disclosures

Item a: Applicant Eligibility Certification

You must check one of the four boxes to indicate the applicant eligibility criteria under which you are applying. Even if you qualify under more than one criteria (i.e., sole proprietor vs. individual), indicate the one that best fits your situation. Different categories have different restrictions (i.e. ability to invoice indirect expenses and ownership of intellectual property) to which the applicant will be held. Provide the additional information requested (SIC codes, number employees, gross revenues etc.) in the space provided. Fraudulent misrepresentation of eligibility is grounds for immediate termination of award.

Item b: Financial and legal Certifications

If all three certifications are not checked you must indicate on a separate page the reason you cannot provide the certification and attach it to Form B. Not being able to provide the first two certifications (agree to all terms and conditions in model agreement and no bankruptcy in last 7 years) does not result in automatic disqualification. Proposed modifications to the terms and conditions will be considered within narrow limits as well as information that indicates proven financial responsibility since bankruptcy (references on other contractual work successfully completed). Any proposed modifications to the agreement's terms and conditions must be submitted with the grant application for review and requires written approval from the Program Administrator. The model grant agreement is available for viewing and downloading from the EISG solicitation web page www.energy.ca.gov/contracts/smallgrant/index.html. The third certification regarding proposal preparation costs and contractual relationship is not negotiable and must be certified in order to qualify.

Item c: Multiple Awards for Same or Similar Research

The first certification check box provides notice that applicants are prohibited from seeking reimbursement from more than one funding source for the same work, and the applicant must so certify in order to qualify for funding consideration.

The second check box requires the applicant to acknowledge the requirement to disclose to the EISG Program Administrator if they received funding for research that is similar or related to the research proposed. The applicant's performance on previous research will be a factor in evaluating the application. Failure to disclose the information is cause for denial or revocation of funding.

The third check box requires the applicant to acknowledge that if they become a recipient of a grant award from the EISG Program, they must notify the EISG Program Administrator if they enter into a concurrent contract that requires the same, similar or related research as proposed in this application, and will be reimbursed only for costs that are not covered by the other awards.

Item d: Certification of Concept Originality

This certification is to ensure the grant applicant has performed a reasonable search of the published literature and patents to determine that the proposed concept is original. University and public libraries can assist in performing searches of relevant research databases of journals and trade publications. Some databases, such as the one maintained by the U.S. Patent Office (www.uspto.gov) can be researched on-line through the Internet. The EISG program page on

the web provides a link titled "Applicant Internet Resources" that provides links to Internet sites related to energy technologies.

Results of the search should be summarized in the State-of-the-Art section of the Narrative. Failure to convey a thorough understanding of the current State-of-the-Art in the area proposed can cause the proposal to fail initial screening or score poorly in technical review.

Note: The EISG Office is in the process of expanding its list of web resources that would be of value to the typical grant applicant and would welcome any suggested sites. Send your suggestions via email to the EISG Program Administrator.

California Energy Commission
Energy Innovations Small Grant (EISG) Program
PROJECT SCHEDULE / DELIVERABLES

FORM C

SCHEDULE / MILESTONE CHART

TASKS AND MILESTONES	MONTHS AFTER AWARD																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Progress Reports <i>(minimum requirement annotated)</i>			X			X			X			X			X			
Draft Final Report <i>(indicate when it will be delivered)</i>																		X
Final Report <i>(indicate when delivered –assume 4 wk review of draft)</i>																		X

List all primary tasks, subtasks and milestones in the order of accomplishment to include in the Progress Reports and Final Report.
 Block out timeframe allocated for completion of each task.

CONTRACT DELIVERABLES CHART

DELIVERABLES	MAA*	DESCRIPTION
1. Progress Reports (required)	**	In accordance with Exhibit C in model grant agreement.

2. Final Report (required)		In accordance with Exhibit D in model grant agreement.
3.		

* *MAA = Months After Award*

** *Since more than one progress report will be delivered, use the schedule to indicate when they will be delivered.*

FORM C INSTRUCTIONS

Project Schedule/Milestone Chart

Schedule

Use the first line of the schedule to show when the progress reports will be submitted. The maximum allowed reporting interval is three months followed by a 7 day period in which the report must be delivered after which it will be considered in default. For example, if you have a 18-month project and plan on 3-month reporting intervals you would show in line one of the schedule progress reports being submitted in months 3,6,9,12, and 15.

- List the major tasks, subtasks and milestones in the order in which they occur (this should be consistent with the Statement of Work).
- Block out the timeframe allocated for each task using multiple XXXs or shading.
- Use a single X or * to represent milestones such as decision points and deliverables.
- Use the last line of the schedule to show when the Final Report will be submitted. The Final Report must be submitted within the term of the grant agreement. Build into the schedule a 4-week period for the EISG Program Administrator to review a draft of the Final Report prior to formal submission. PI needs to allocate sufficient time within the requested project term to write the Final Report.

Deliverables

- Progress reports are a required deliverable and must be projected on line 1 of the schedule.
- The Draft Final Report and Final Report are required deliverables and must be projected on the schedule.
- Other deliverables may include prototypes, software modules, or general use equipment that you plan to purchase with grant funds. General use equipment is generally not authorized for purchase unless purchasing is more cost effective than renting or leasing. Prototypes that have concept demonstration value and are of reasonable size and weight (can be mailed through postal system) should be listed as deliverables and annotated as either a permanent transfer or for inspection and return.

**California Energy Commission
Energy Innovations Small Grant (EISG) Program
PROPOSED BUDGET SUMMARY**

FORM D

PROJECT TITLE:

1. PERSONNEL SALARIES/WAGES (list last name and job title)	Total Hours	Hourly Rate	Total Salary/Wages (=Total Hours x Hourly Rate)	Fringe Benefits	EISG Funds Requested	Is the Individual Based in California?*	Applicant Contributions	Other Contributions
						<input type="checkbox"/> Yes <input type="checkbox"/> No		
						<input type="checkbox"/> Yes <input type="checkbox"/> No		
						<input type="checkbox"/> Yes <input type="checkbox"/> No		
						<input type="checkbox"/> Yes <input type="checkbox"/> No		
						<input type="checkbox"/> Yes <input type="checkbox"/> No		
						<input type="checkbox"/> Yes <input type="checkbox"/> No		
Total Salaries/Wages:								
Total Fringe Benefits:								
Subtotal Section 1 "Salaries/Wages and Fringe Benefits":								
Subtotal Section 1 "Salaries/Wages and Fringe Benefits" EISG Funds Spent in California:								

*Based in California" means that the individual identified (or to be identified) in this table will be physically present in California for the majority of time in which he or she performs the work funded by the Agreement. The responses in this column will be used to determine whether the Applicant complies with the minimum 80% "Economic Investment in California" requirement discussed in the Application Manual.

2. CONSULTANT/CONTRACTUAL SERVICES (itemize contracted services)	EISG Funds Requested	Are the Consultants/Contractors Based in California?*	Applicant Contributions	Other Contributions
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Subtotal Section 2 "Consultant/Contractual Services":				

Subtotal Section 2 "Consultant/Contractual Services" EISG Funds Spent in California:				
<p>***"Spent in California" means that: (1) If the consultant identified (or to be identified) is an individual, he or she will be physically present in California for the majority of time in which he or she performs the work funded by the Agreement; or (2) If the consultant/contractor identified (or to be identified) is a company, it is a "California-Based Entity" as defined in Form G (California-Based Entity Form). The responses in this column will be used to determine whether the minimum 80% "Economic Investment in California" requirement discussed in the Application Manual.</p>				
3. OTHER DIRECT EXPENSES (see instructions)	EISG Funds Requested	Will the EISG Funds be Spent in California?***	Applicant Contributions	Other Contributions
a. Travel (combine all travel expenses on this line)		<input type="checkbox"/> Yes <input type="checkbox"/> No		
b. Facilities Lease/modification Expenses		<input type="checkbox"/> Yes <input type="checkbox"/> No		
c. Equipment Rental/Use Fees		<input type="checkbox"/> Yes <input type="checkbox"/> No		
d. Major Equipment Purchases (for items costing over \$5,000)		<input type="checkbox"/> Yes <input type="checkbox"/> No		
e. Materials/Supplies/Equipment/Misc. (total lines e1.– e.8.)				
(1) Total for material items with unit cost less than \$100				
(2)				
(3)				
(4)				
(5)				
(6)				
(7)				
(8)				
Subtotal Section 3 "Other Direct Expenses":				
Subtotal Section 3 "Other Direct Expenses" EISG Funds Spent in California:				
<p>****"Spent in California" means that the business transaction (e.g., purchase, lease, rental) was entered into with a business located in California. If the business is located in more than one state, the transaction must be entered into with one of the businesses located in California. The responses in this column will be used to determine whether the Applicant complies with the minimum 80% "Economic Investment in California" requirement discussed in the</p>				
4. TOTAL DIRECT COSTS (1 - 3)				
5. INDIRECT COSTS (see instructions)				
6. TOTAL PROPOSAL COSTS (4 + 5)				

FORM D INSTRUCTIONS

Proposed Budget Summary

General Information:

- Reference Part 3.I. and 3.J. of the manual for general guidelines on allowable direct expenses.
- This form is available as a separate Excel file on the specific EISG Solicitation web page (<http://www.energy.ca.gov/contracts/smallgrant/index.html>) with the math formulas inserted.
- The proposed budget form provides columns that allow the applicant to show the project funds coming from three sources (a) grant funds, (b) applicant's contribution (i.e., cash, in kind contribution or waived indirect) and (c) any other third party sources from which the applicant has received a financial commitment.
- Attach a budget narrative to this form if budget entries are made in lines 2, 3.a – 3.d, or 5.

1. Personnel Salaries/Wages:

- List the last name and functional job title for each employee of the organization.
- Academic personnel must convert their % time and salaries to total hours and hourly rate on the proposed budget but if awarded are allowed to invoice based on % effort.
- Fringe benefits may be added as long as they are not already included in the listed hourly rate or included in the indirect costs. Individual applicants cannot claim fringe.

2. Consultant/Contractual Services

- There are no restrictions on whom an applicant can subcontract with or how much work may be subcontracted out provided the subs provide a cost estimate letter and satisfy the applicable clauses in the grant agreement.

3. Other Direct Expenses (related to Awardee grant work)

- For travel, facilities lease, equipment rental and major equipment purchase enter a single total amount for each line on Form D and provide an itemized breakdown in the budget narrative.
- The materials/supplies/equipment/misc. line includes all remaining expenses. Total all material expenses with a unit cost less than \$100 and enter on line 3.e.(1). Itemize the remaining expenses that have a unit cost greater than \$100 on lines 3.e.(2) – 3.e.(8). **Total lines 3.e.(1) – 3.e.(8) on line 3.e.**
- If you are an organization that is not claiming an indirect rate or are an individual you may itemize the added cost of obtaining the insurance coverage mandated in Article XII of the Model Grant Agreement as a direct expense under the materials line (3.e.).

4. Total Direct Costs (*Total subtotals from items 1-3*)

5. Indirect Costs

- Not applicable for Individuals.
- Businesses, non-profits and academic institutions that choose to recover indirect costs must use an approved rate based on the priority specified in Part 3.K. of the application manual.
- For the purpose of this program, G&A is considered an indirect cost.
- If cost sharing is proposed you must also cost share the associated indirect.

6. Total Proposal Costs

- First column total represents the requested amount for Awardee grant work and cannot exceed \$150,000 for hardware projects or \$75,000 for modeling projects. **The two categories may not be combined.**

Note: Bold blocks represent budget amounts tracked for accounting purposes if the grant is awarded.

**California Energy Commission
Energy Innovations Small Grant (EISG) Program
PROJECT PERSONNEL**

FORM E

- ▶ Provide a brief summary of qualifications for each member of the project team for which a resume is not provided (resume required for Principal Investigator/Project Manager).
- ▶ Describe what contribution each team member will make to the proposed project.

1) Principal Investigator/Project Manager Name: _____

2) Investigator/Team Member Name: _____ Position: _____

3) Investigator/Team Member Name: _____ Position: _____

4) Investigator/Team Member Name: _____ Position: _____

** If more than four investigators, use additional pages and attach to this form*

FORM E INSTRUCTIONS

Project Personnel

General Information

- If there are more investigators than the form can accommodate, use additional pages and attach to the form.
- The Principal Investigator/Project Manager must provide a resume (2-page maximum), which will be used to assess their qualifications (e.g., education, experience, relevant publications, etc.). If the positions of Principal Investigator and Project Manager are being performed by separate individuals then resumes will be required for both positions. Resumes on additional team members are optional but desired. Attach all resumes to this form.

Item 1: Specify the name of the Principal Investigator followed by a summary of the primary tasks to be performed by the PI and the percentage of time that will be devoted to the project.

Items 2 – 4:

Provide the name and position title of each team member/investigator that will be assisting the PI in the performance of the project. Provide a summary of qualifications for each investigator for which a resume is not provided and indicate the primary tasks they will be responsible for and the percentage of time they will devote to the project.

California Energy Commission
Energy Innovations Small Grant (EISG) Program
STATUS OF RESEARCH EFFORT

FORM F

Answer each question below and provide brief comments where appropriate to clarify status. If you are filling out this form in MS Word the comment block will expand to accommodate inserted text. The completed form should not exceed **two pages**. Responses on this form will not be used as the sole justification for the Initial Screening decision.

Activity	Comments:
1) Have you surveyed projected end users for interest in using your concept?	<i>If YES, who and what were the survey results?</i>
2) Have you done a market analysis (takes into account external factors that influence demand)?	<i>If YES, summarize the results.</i>
3) Have you defined a path leading from concept research to ultimate end use?	<i>If YES, list the main steps in the plan.</i>
4) Have you developed a business plan for marketing the proposed technology?	<i>If YES, what level of detail (low, medium, high)?</i>
5) Have you assessed the competition in terms of cost, function, maintenance, etc., for the user?	<i>If YES, include a comparison table in the proposal.</i>
6) Have you developed a conceptual design and identified performance specifications?	<i>If NO, how would the technical merit be assessed?</i>
7) What level of technical risk is associated with this development effort?	<i>Risk level: (low, medium, high).</i>
8) Have you identified the intellectual property that may be developed in the proposed research?	<i>If YES, indicate how you intend to protect your IP.</i>
9) Have you already determined that your concept does not infringe on related patented technology?	<i>Indicate YES or NO.</i>
10) Have you filed for or obtained a patent for the concept?	<i>If YES, provide filing # if filed or patent #.</i>
11) Has industry or a commercializer expressed interest in the proposed research?	<i>If YES, in what form is that interest expressed?</i>
12) Have you identified the possible environmental or safety risks associated with this technology?	<i>If YES, identify the risks.</i>
13) Have you identified any regulatory, institutional, and legal obstacles to your product?	<i>If YES, identify them.</i>
14) Do you intend to develop this technology through to commercialization?	<i>If YES, how many years to commercialization?</i>
15) Have you quantified the potential public benefit to California with regard to energy savings, environmental impact etc.?	<i>If NO, why should CA fund this research?</i>

16) Have you received funding in the past or currently from State or Federal agencies (SBIR, DOE, a state agency, etc.) to develop this technology?

If YES, briefly describe and provide contact information for the project managers at the public agencies.

California Energy Commission
Energy Innovations Small Grant (EISG) Program
CALIFORNIA-BASED ENTITY (CBE) FORM

FORM G

Please answer all questions below for each CBE. Failure to provide accurate, detailed, and complete information may result in entities not being counted as CBEs. (Examples are provided in gray.)

1. State the full legal name of the CBE and its business form (e.g., corporation, limited liability company, sole proprietorship).

Smith Onions, LLC

2. Indicate whether the CBE is the prime contractor/recipient or a subcontractor.

The CBE is the subcontractor.

3. Indicate whether the CBE has its headquarters or an office for the transaction of business in California. Please indicate the street address.

*Smith Onions is headquartered in California.
Smith Onions
1222 Atlantic Ave
Oxnard, CA 93030*

4. Provide a brief description of the product or research that is the subject of the proposal.

This project will demonstrate the effectiveness of a commercially available membrane filtration system to clean and reuse wastewater produced from the Smith Onions onion processing plant for supplying evaporative cooling towers used in the plant.

5. List the location(s) in California where the product will be manufactured or the research will occur and provide a brief description of the facility at the location (for multiple locations, please describe what portion will be completed at each location).

The demonstration project will occur at Smith Onions onion processing plant, with approximately 50,000 sq ft of refrigerated processing and warehousing space, 1222 Atlantic Ave., Oxnard, CA.

6. Indicate whether any part of the research or product manufacturing will occur outside of California. If so, please explain what portion and how a substantial portion will occur in California.

No research will be performed outside of California.

7. Indicate the entity's Tax ID number.

Example: 99-9999999

8. Indicate that the entity is registered with the California Secretary of State.

California business entities as well as non-California business entities conducting intrastate business in California are required to register and be in good standing with the California Secretary of State in

order to enter into a funding agreement with the Energy Commission. If not currently registered with the California Secretary of State, Applicants are encouraged to contact the Secretary of State's Office as soon as possible. For more information, visit the California Secretary of State's website at www.sos.ca.gov.

Entities who are acting as the Prime must provide evidence of registration with the California Secretary of State as part of the submission. The evidence can be a statement indicating that the company is searchable at the Secretary of State website under Business Entities.

CBEs who are acting as subcontractors may provide evidence in that they are applying for registration, as long as evidence of completed registration with the California Secretary of State is provided before proposal evaluation is completed.

Individuals and sole proprietorships do not need to register with the California Secretary of State.

FORM G INSTRUCTIONS

Pursuant to Public Resources Code Section 25620.5 (h) and (i), the California Energy Commission's Energy Innovations Small Grant (EISG) Program must give a priority to "California-based entities" (CBEs) when making awards. A CBE is a corporation or other business entity organized for the transaction of business that:

- Has its headquarters or an office in California; and
- Substantially manufactures the product or substantially performs the research within California that is the subject of the award.

To implement Public Resources Code Section 25620.5, the Energy Commission requires each proposal to meet the criteria for a CBE as described below:

- 1. The proposal must include a CBE as either the recipient or a subcontractor.**
- 2. The proposal budget must allocate at least 80% of EISG funds to one or more CBEs.**
 - If the CBE is the recipient, the proposal budget must provide show that it will spend at least 80% of funds in California.
 - If the recipient is not a CBE, the proposal budget must show that it will subcontract at least 80% of EISG funds to a CBE and that the CBE will spend the funds in California.
 - The 80% applies only to EISG funds and does not include the Applicant's matching funds. For example, if a proposal has an EISG budget of \$100,000 (regardless of how matching funds are pledged), the budget must show that \$80,000 of EISG funds are allocated to CBEs.
 - Multiple CBEs may be used to meet the 80% requirement. For example, the 80% requirement is met if the recipient CBE receives 41% of EISG funds and the subcontractor CBE receives 39% of EISG funds. No more than 20% of EISG funds can be subcontracted to non-CBEs.
 - No more than 20% of EISG funds may be subcontracted to non-CBEs.

The proposal must document the expenditure of EISG funds in California in the proposed budget in Form D and the budget narrative.

Appendix A

Building End Use Energy Efficiency

Reduce on site natural gas use and address technology gaps hindering the achievement of improved efficiency and reduced natural gas use in commercial and residential buildings: a) advance efficient technologies, design tools, and operations; b) maintain or increase productivity while reducing energy consumption and emissions.

Examples include:

- Improvement to water heating and distribution efficiency (ex: heat pump assisted solar thermal collectors)
- Improvements to food service cooking equipment (ex: Low NOx, high efficiency combustion for gas-fired commercial food service equipment)
- Advanced HVAC and envelopes (ex: Gas engine-driven heat pump and absorption system packages)
- Solar water heating
- Indoor air quality (ex: low-energy residential hybrid ventilation with filtered air supply)
- Other innovative natural gas saving systems that also reduce air emissions

Industrial Agriculture and Water Sector End Use Efficiency

Reduce natural gas energy use and cost in the industrial, agriculture and water sectors through development of advanced technologies and processes that reduce energy use and costs, increase energy efficiency and maintain or increase productivity while reducing emissions.

Examples include:

- Process improvements (ex: enhanced steam generator efficiency through intelligent demand)
- Heat recovery from combustion systems and natural gas burners (ex: supercritical CO₂ cycles for heat recovery/power generation)
- Water/wastewater treatment process improvements (ex: waste water recovery using process waste heat)

Renewable Energy Technologies

Reduce technical barriers to increase penetration of renewable energy by advancing the science and technology of combined heat and power (CHP) and other renewable processes; develop hybrid generation and other low emission natural gas technologies for distributed generation; and develop and demonstrate diversified applications of advanced generation technologies that use renewable natural gas.

Examples include:

- Hybrid solar thermal/gas cooling
- Natural gas production from solar thermal catalytic reformation of CO₂ and H₂O
- Improved low emissions fuel flexible generation for biomass derived fuels
- Low cost fuel flexible DG/CHP for use with variable natural gas, shale gas, and biogas blends

Natural Gas Infrastructure

Conduct research that focuses on enhancing transmission and distribution capabilities of the natural gas system, and enhancing the safety and integrity of the natural gas pipeline.

Examples include:

- Methane sensor detection network

Energy Related Environmental and Climate Change

Develop effective approaches to resolving environmental effects of natural gas production, delivery and use; and develop new natural gas applications and products that can solve/mitigate environmental problems; complement research to inform policy associated with climate change, air quality and aquatic resources.

Examples include:

- Development of nanocomposite polymer membranes to reduce methane emissions in California
- Mitigate methane and VOC emissions from hydraulic fracturing, natural gas storage and transport through air treatment devices.