

February 20, 2009

RESPONDERS:

SUBJECT: Amendment No. 1 to Solicitation for Letters of Interest (LOI) No. REU-9-99010, "Solar America Initiative (SAI) PV Technology Pre-Incubator".

Amendment No. 1 is being issued to provide NREL responses to questions received to date regarding the subject Solicitation.

1. What are the key changes in emphasis between this solicitation and the previous solicitations?

The PV Technology Pre-Incubator is positioned to bridge the gap between the concept verification stage of a technology and the development of a commercially viable prototype. The PV Technology Incubator is positioned to shorten the timeline for companies to transition prototype and pre-commercial PV technologies into pilot and full-scale manufacture. The difference between these are principally with respect to the level of technological development and how close a technology or concept is to being commercially viable. Technologies or concepts that are demonstrated but lack a scalable prototype or likely require more than 18 months to be commercially viable are suitable for the PV Technology Pre-Incubator. Technologies or concepts that possess a prototype capable of reaching pilot-scale manufacturing within 18 months are suitable for the PV Technology Incubator.

2. We are confused by the difference between this pre-incubator program, and a prior DOE program called "Next Generation Photovoltaic Devices and Process", the latter intended to fund new "proof of concept" work - does this program also fund such work?

The Pre-Incubator is limited to technologies that have seen some demonstrated development, although this demonstration is not restricted to use in a photovoltaic device, and the expected time to commercialization is shorter than that required for the Next Generation Photovoltaic Devices and Process program.

3. Can we then submit two different proposals?

No. A U.S. small business can only submit one response to this solicitation. That same business can be a lower tier on any number of other responses. Please see section 6 on page 7 of the LOI.

4. Can one company have multiple applications as a primary contractor (with the understanding that only one can be funded)? In other words – is there a rule that says more than one application as a primary contractor is not allowed?

No, a prime subcontractor can only submit one proposal to this LOI.

Yes. The limitation to only one response is listed in section 6 on page 7 of the LOI.

5. For a company that is responding to both the pre-incubator and incubator solicitations, how similar can the projects be?

The Pre-Incubator and Incubator are two distinctly different programs. Should a Responder be selected for negotiations under both the Pre-Incubator and Incubator programs, the Statements of Work negotiated for each project will have to include entirely different work effort and task descriptions. A Subcontractor cannot be paid for the same work effort under two separate subcontracts.

6. Can one company participate in more than one pre-incubator program? Or in a pre-incubator and incubator at the same time? With different ideas/concepts - in both cases.

A company can only receive one award under this Solicitation, but is allowed to be a lower tier responder on other responses to the same solicitation. Additionally, participation in the Pre-Incubator does not preclude a company from participating in the Incubator solicitations, or vice-versa (see response to Question 1 regarding the technical difference between Pre-Incubator and Incubator).

7. If a responder already submitted a proposal for the Supply Chain program FOA, does that conflict with this award in any way?

The proposed work efforts and tasks must be different, because government funds from two different agencies cannot be used to support the same work effort.

8. If a responder succeeds in becoming a subcontractor for this program, does it have any bearing on future opportunities in the full Incubator Program? Does it help, hurt or no effect?

The solicitation, review and selection processes of these two programs are independent of one another.

9. What kind of publicity is associated with the project? Will the awardees be announced publicly? Does the awardee have a say in whether or not there is publicity at the time of the award or at any other time?

There will be a public announcement of award winners. The content and level of detail provided in that announcement is arrived at based on input from the awardees. Additionally, publicity release of any nature in connection with a subcontract award may be made by an awardee with prior NREL review and approval.

10. Let's say a company has a prototype which qualifies it for the incubator solicitation, but there are also certain aspects of the prototype which could be further improved with newer technology. This newer technology could fall into the pre-incubator guidelines. Could the company qualify for both the incubator and pre-incubator grants since there is a working prototype but also has newer technology within that prototype ?

Yes.

11. The module design that we are developing includes a mix of technologies that we have prototyped and of materials and packaging concepts that we are still developing. How does this fit within the NREL pre-incubator program?

Tasks suitable for funding under the Pre-Incubator are limited to the development of demonstrated concepts. These concepts do not need to have optimized processes or an energy conversion (e.g. cell/module) prototype in order to meet the entrance criteria. Existing development that places the technology closer to the optimized or prototype stage is acceptable.

12. Is a better, faster, lower energy required production process for solar silicon (ingot, wafer) within the scope of this procurement, assuming module/cell is produced from it in 12 months?

Yes, provided the process is currently demonstrated.

13. If Program targets 'module-related' innovations, is there any value ascribed to a Responder's technology that also has advantages for Balance-of-System cost improvements? If so, how should this be portrayed in our submission?

Yes. For example, the LCOE is a Key Performance Parameter (KPP) that takes into consideration benefits beyond modules (see Table 4-2 of the Solicitation for LOI).

14. Since this is a Pre-Incubator, what are your expectations regarding a company's ability to calculate the LCOE using the SAM model when many of these assumptions are unknown?

The reference to SAM is included to expose companies to the software used to calculate LCOE. The use of SAM is not required for Responses to this solicitation.

15. Would a technology that significantly reduces manufacturing costs for producing PV grade silicon be responsive to this solicitation?

Yes. Projects that focus on reducing manufacturing costs address a PV module-related Key Performance Parameter and are responsive to this solicitation.

16. To qualify as Pre-incubator does the technology need to explicitly convert solar energy to electricity or can other enhancement aspects be considered as well? Example - manufacturing technique; product design; system mounting and integration;

The innovative technology being developed under this solicitation is not limited to the energy conversion part of that cell or module. However, the subcontract will require a prototype cell or module as a final deliverable that incorporates the innovative technology and does convert solar energy to electricity.

17. Can we propose a device that combines one or more other functions, that are synergistic with converting sunlight to electricity, so as to achieve more practical and efficient use, yet having a negligible price increase, or size or weight increase?

Yes. There are no restrictions on the limit of tangible benefits associated with the chosen technology. However, as discussed in question 16, the subcontract will require a prototype cell or module as a final deliverable that incorporates the innovative technology and does convert solar energy to electricity.

18. Could you specifically explain why the Module is highlighted, and the absorber and other listed items related to modules are not? Page 2 / Table 4.1

All aspects of the Module, including the absorber, cells and contacts, interconnect, packaging, and manufacturing, fall within the scope of this solicitation.

19. What is the minimum entrance requirement into the pre-incubator? You mentioned "demonstration of the technology," but does that mean a lab-scale cell, demonstration of a PV effect, or is having a unique semiconductor structure/material with new ideas for cell development acceptable?

The minimum entrance criteria is an innovative and demonstrated PV technology that is a cell, or module related concept capable of meeting the LCOE goals of the SAI. This would have the potential for a disruptive improvement in solar energy conversion, and accelerate the transition to the prototype stage. Adequate metrics would provide depth to the demonstration of the PV technology that the company is focused on. A metric could be an SEM image, TEM, I-V curve.

As the purpose of the Pre-Incubator is to move this demonstrated concept to the cell/module prototype stage, an additional requirement of the technology, and the Response to this Solicitation for LOI, is the identification and viability of a clear pathway which bears promise of economic pilot production by 2012.

20. Criteria states need for 'some type of demonstration' of technology, though a fully functional device is not required. If current 'demonstration' level of device is not yet optimized to future potential but DOES show physical performance, is this acceptable?

Yes. The core innovation needs to be demonstrated but not optimized or at the level of a prototype. This could be demonstrated through adequate metrics of the specific technology.

21. What level of demonstration verification is required to confirm qualifying for the initial criteria ... does NREL's Testing Group have to verify a device's performance or can the Responder show its own testing data to demonstrate its qualification for this program?

NREL verification is not required for the concept verification contained within the Response. The Hardware Baseline deliverable due within the first month of an awarded subcontract, and all other deliverables, is subject to NREL verification.

22. Can we use NREL as an independent 3rd party lab to verify our claims?

Yes.

23. Can NREL experimental data be used in the initial proof of concept discussed in the proposal?

Yes.

24. Does a physical item have to be produced prior to the proposal or are concepts for rapid prototyping acceptable?

The entrance criteria requires a demonstration of the concept and this demonstration must be a physical item.

25. Regarding the entry criteria, can you elaborate on how a demonstrated concept may be still innovative?

Innovation is an aspect of the technology. Demonstration is an indication of the maturity.

26. This question has been asked in a couple of ways by different participants, but the answer is still unclear to me. It is related to exactly what is "demonstration of the technology." If a baseline device must be sent to NREL one month into the project, it suggests that there must be something for them to test. Meaning, there must be a PV effect, even if it is 0.01% efficient. Is this the case? What if the baseline is an ohmic IV curve?

Neither the demonstration of technology for the entrance criteria, nor the Hardware Baseline deliverable, are required to be a PV device but should have the potential to become PV related.

27. What is meant by the hardware baseline (e.g., a cell/module?)?

This is the deliverable due at the first month (see Table 13.2 and the associated section in the Solicitation for LOI). The physical item that represents the current state of the technology is delivered to NREL within the first month of the awarded subcontract (i.e. Hardware Baseline deliverable).

28. Would you explain more about the baseline hardware requirements? Do you need to produce the baseline hardware along with test data and results for review?

The concept demonstration requirement necessitates that the chosen technology has seen some level of execution. Data/Metrics supporting this demonstrated level of execution is a required part of the Response but delivery of actual hardware is not. The hardware requirement demonstrating the existing level of technology development is required for the Baseline Hardware deliverable due within the first month of an awarded subcontract (see Table 13.2 and the associated section in the Solicitation for LOI).

29. If I understood the Baseline correctly, the initial deliverable does not need to be a cell or module--but it does need to be a physical object/material

Yes, that is correct.

30. Our intended module size is 2ft x 4ft. For the prototype deliverable, is a smaller module (e.g. 6in x 6in or 1ft x 1ft) acceptable? The materials and module assembly/sealing of the smaller module will be the same as the full sized module (2ft x 4ft)

Yes. There is not a size requirement for the prototype.

31. In the pre-incubator documentation is the term "solar cell". Does this imply that the cell must be tiny and interconnected with other cells to cover a larger surface area?

No. There are no restrictions on the size or design, configuration of the energy conversion device (i.e. solar cell or module)

32. If a responder has a project already in place with NREL that directly bears on the project to be submitted under this Pre-Incubator, can the researchers from NREL be listed as participants and their resumes included? The proposed work to be submitted under this Pre-Incubator is NOT redundant.

No. NREL is not allowed to be a lower tier subcontractor. Consequently, NREL personnel and resources should not be included in a Response to this solicitation. NREL personnel and equipment are available to assist subcontract efforts. This assistance is at no cost to the subcontractor.

33. Regarding NREL active participation: Does a dollar amount need to be estimated for this level of active participation, even if it doesn't get included in the budget? Where is this content to be included in the LOI?

No. NREL is not allowed to be a lower tier subcontractor. Please see the above response to question no. 32.

34. Is there a cost for using the NREL facilities specified in the solicitation? If so, where are those rates listed and how should they be included in the responders proposed budget?

No, there is no cost if you have been awarded an NREL Pre-Incubator subcontract. There are limits to the size and scope of this cost-free NREL support.

35. Please expand on how a company is to involve NREL yet they cannot be a lower tier subcontractor and please restate what you said NREL will own at the end of the contract

The details of NREL's involvement are planned and coordinated during the subcontract negotiation process and continually throughout the subcontract period. As an estimate, the financial value assigned to this assistance is approximately 5% of the award cost.

The Subcontractor will retain ownership to IP developed under this work effort and can use, release to others, reproduce, distribute, or publish this data while NREL retains the rights to use the data. There are specific provisions under Appendix C-2 that protects the Subcontractor's rights to all data developed under this work effort including copyright and patent.

The C-2 Appendix can be viewed and downloaded from the following website:

http://www.nrel.gov/business_opportunities/related_docs.html

36. On p5 in table 4-2, under comments for Performance, what is TPP?

TPP, Technology Pathway Partner.....this is language that is pulled from larger scope and definition of the SAI. The sentence should be revised by replacing "TPP" with "Responder".

37. Does the schedule in the proposal need to last 12 months? Or can we propose a project that lasts only 6 months?

No. A 6 month project may be proposed. If the proposal is selected for award, a specific SOW will be developed and at that point the schedule can be negotiated that could be less than 12 months.

38. Who owns the IP developed during the pre-incubator program?

The Subcontractor will retain ownership to IP developed under this work effort and can use, release to others, reproduce, distribute, or publish this data while NREL retains the rights to use the data. There are specific provisions under Appendix C-2 that protects the Subcontractor's rights to all data developed under this work effort including copyright and patent.

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39. What specific rights does the DOE have to the IP on a Pre-Incubator project? Licensing and patent-wise.

The Subcontractor will retain ownership to IP developed under this work effort. While NREL retains the rights to use data developed under this work effort, there are specific provisions under Appendix C-2 that protects the Subcontractor's rights to all data developed under this work effort including copyright and patent.

The C-2 Appendix can be viewed and downloaded from the following website:
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40. Since NREL will own the "data", does that mean that NREL will, in effect be able to commercialize or license the technology to others? Please expand this as a small business's proprietary rights is paramount.

Although NREL and the Subcontractor will both retain rights to IP developed under this work effort, generally NREL does not commercialize or license technology to outside parties.

41. If the company and NREL owns the DATA and the company owns the equipment, processes, production, marketing, sales and distribution rights worldwide without encumbrance?

This question is not clear, but hopefully the answer will address the core issue. Any data developed under a subcontract with NREL that is for equipment, processes or production will be jointly owned by NREL and the Subcontractor. However, the Subcontractor retains rights to copyright and patent under title 35 of the United States Code. This item is discussed at length under Clause 7 of Appendix C-2.

The C-2 Appendix can be viewed and downloaded from the following website:
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42. Could you please talk about NREL's role in the future development of the product developed during this project. You mentioned that NREL will have rights to the data and any IP developed. Will the company have to craft a licensing agreement to further develop this technology?

No, a licensing agreement is not required. The Subcontractor's right to license technology is addressed in Clause 7 of Appendix C-2.

The C-2 Appendix can be viewed and downloaded from the following website:
http://www.nrel.gov/business_opportunities/related_docs.html

43. If the company and NREL owns the DATA, how will future IP filings be done, (must NREL be involved?) and given this joint ownership of data yet the company owns the equipment, processes, production, marketing, sales and distribution rights DOES THE COMPANY RETAIN ITS worldwide rights without encumbrance to manufacture and sell the technology, again without encumbrance?

Filings for copyright and or patent must be coordinated with DOE and must have the appropriate notices.

In general, although NREL and the government will have full access to any IP (including processes) developed under this work effort the Subcontractor retains entire rights or interest throughout the world (under title 35 of the United States Code). This item is discussed at length under Clause 7 of Appendix C-2.

The C-2 Appendix can be viewed and downloaded from the following website:
http://www.nrel.gov/business_opportunities/related_docs.html

44. Given the joint ownership of data, How must future IP filings be done?

Filings for copyright and or patent must be coordinated with DOE and must have the appropriate notices. Please see clauses 3 and 7 of Appendix C-2 for specific filing procedures.

The C-2 Appendix can be viewed and downloaded from the following website:
http://www.nrel.gov/business_opportunities/related_docs.html

45. Does NREL 'ownership' of the data generated in this program constitute a 'license' or a right for NREL or any government agency or other 3rd party to develop a product on its own, apart from the Responder company?

No. Although NREL and the government will have full access to any IP (including processes) developed under this work effort the Subcontractor retains copyright and patent rights throughout the world (under title 35 of the United States Code).

46. When you say Right to Data....can this data then be put out in public field?

“Rights to data” is in relation to “information” or “data” first or newly produced under this work effort and does not include information already in the public arena. However, NREL’s policies regarding information release to the public is addressed in detail under question number 65 of this amendment.

47. Will NREL sign a non-disclosure agreement (in case where a break-through is made due to collaborative work) so the IP can be protected? Will they sign an agreement about cross-licensing etc.?

No, NREL cannot sign a non-disclosure agreement as this violates the Federal Acquisition Regulations. However, data rights of the respondent are protected under Appendix C-2 including copyright and patent.

The C-2 Appendix can be viewed and downloaded from the following website:
http://www.nrel.gov/business_opportunities/related_docs.html

48. If NREL is a contractor, they share ownership for the results of their contract work and not the IP - it is lot more clear cut than if they are collaborators in the research?

Unfortunately the intent of this question is unclear. However, the information regarding data and rights has been discussed at length.

49. How will the IP and data collected during this engagement will be handled?

All responses received for this solicitation are treated as business sensitive (company and administrative information) and confidential (technical proposal). NREL makes every effort to protect this information.

50. Who reviews the LOI's? Specifically, are they active industry participants? What type of conflict of interest terms must they agree to? How should responders handle confidential information?

The review panel identities are kept confidential and they are required to sign confidentiality forms. The confidentiality form requires that reviewers certify that they will not disclose any information either during the proceedings of the source evaluation or any subsequent time to anyone who is not also authorized access to the information by law or regulation, and then only to the extent that such information is required in connection with such person's official responsibilities. NREL makes every effort to protect the information submitted to us.

51. What is the minimum percentage of the award that needs to be allocated to the US Small Business Responder?

Per page 7 of the LOI, a large business as a lower-tier subcontractor may only represent 20% of the total subcontract amount. Therefore, U.S small business, U.S. non-profit and U.S. educational institution participation must represent 80% or more of the total subcontract amount.

52. Is there any limit on subcontractor awards to other US small businesses or universities?

There is not a limit on US small businesses. However, US universities are only eligible to be a lower-tier subcontractor under this LOI. Please see section 6 page 7 of the LOI for more specifics.

53. What is the definition of "small business" as referred to in the entrance criteria?

Less than 500 employees. Please see page 17 of the LOI.

54. The RFP says that all participants must be US based. Is there anything that precludes the purchase of materials from foreign suppliers?

No, the use of foreign materials is a business decision of the Responder. However, the costs for foreign materials or supplies must be covered in the Responder's price participation.

55. Can we use a foreign manufacturer for a non-proprietary part? for a proprietary part?

Use of a foreign manufacturer is a business decision of the Responder. The use of foreign vendors is not precluded, but those costs have to be covered by your price participation.

56. The RFP states that the funds cannot be used to purchase capital. Is there an upper limit in expenditure that defines what is capital vs. what is not?

Capital under this solicitation is equipment or machinery or the costs associated with refurbishing equipment or machinery. Capital equipment is defined as equipment with a unit value of \$50,000 or more, including applicable shipping and installation charges, and having a life expectancy of two years or more.

57. Attachment A of the RFP doesn't separately identify profit after overhead, fringe & G&A. Is the 20% participation meant to come out of cost before profit, is profit not contemplated for this solicitation or is some or all of the profit for the job part of the 20%? Also, are DOE's accounting standards similar to DoD's such that compliance with DCAA accounting guidelines are sufficient to document costs?

The 20% price participation should be based on all allowable and allocable costs to complete the work effort. NREL does not allow profit for research and development work under a firm-fixed price with price participation subcontract.

NREL cannot comment on the similarity between DOD and DOE standards. However, DCAA is a recognized audit agency by DOE/NREL.

58. Is it the case, as was indicated during the conference call, that a profit or fee can be included in the budget before subtracting out cost share?

No, NREL does not allow for profit or fee as part of a research and development firm-fixed price with price participation subcontract.

59. Does the allocation of costs in a final proposal need to exactly match the price summary in the LOI? In other words, can the distribution in costs between the subcontractors and the responder be adjusted in a final proposal relative to the LOI, assuming the total cost to NREL remains fixed? My motivation in asking this question comes from the short time between now and March 10th to nail down the exact costs of the subcontractors, and looking to see if there is some wiggle room to adjust things later.

No. The price/cost proposal submitted with the LOI should be as close to anticipated costs as possible. If a Responder is selected for an award a separate request will be sent for an updated price/cost proposal.

60. How many awarded contracts do you expect? What is the total amount of funding for this pre-incubator solicitation?

These numbers are estimates, but we anticipate 4 to 10 awards, and NREL's contribution is limited to \$500K each.

61. The number of awards is approximately "6 to 10" in the solicitation, but "4 to 6" in the net conference presentation. Which one is correct?

These numbers are estimates, but we anticipate 4 to 10 awards.

62. Do you expect any additional funds for the PV program from the stimulus package?

We do not have enough information at this time to accurately answer this question.

63. Do you post both the presentation and the Q& A on your website?

Yes, the presentation is currently posted on the website. The Q&A will be included in the amendment. Please check back on the site for the amendment.

64. Would you require hard copy for this LOI or soft copy will be sufficient?

NREL requires one hard copy and an electronic submission for this LOI. Please refer to section 13.9 on page 16 of the LOI.

65. We received several different questions that pertain to the Freedom of Information Act (FOIA) and release of data to the public. Below is a description of NREL's policies regarding FOIA and the release of information to the public.

FOIA Inquiry under PV Incubator solicitation for Letters of Interest

The Freedom of Information Act (FOIA) does not apply to private companies. The Alliance for Sustainable Energy, LLC, is a private company under contract to the U.S. Department of Energy (DOE) to manage and operate the National Renewable Energy Laboratory (Alliance/NREL), a government-owned, contractor operated facility.

Because Alliance/NREL, as a private company not subject to FOIA, does not have a FOIA Officer, any FOIA requests received by Alliance/NREL are directed to the U.S. Department of Energy's (DOE's) Golden Office.

The PV Incubator solicitation was issued by and any resultant subcontracts will be executed between Alliance/NREL and the successful responder (offeror). Alliance/NREL takes the position that all procurement documents {from solicitation responses (offers) to awarded subcontracts} are NOT government-owned records and are not subject to disclosure under FOIA.

It is possible that the Department of Energy may deem some Alliance/NREL procurement documents as government-owned records pursuant to the terms and conditions of the Alliance/NREL contract with the Department of Energy. Although government-owned records are subject to FOIA there are several exemptions under FOIA (5 U.S.C. §552(b)) that prohibit disclosure of exempted information.

If contacted by the DOE FOIA Officer to support a DOE response to a FOIA request, Alliance/NREL will provide copies of government-owned records in its possession and will recommend redaction or withholding of information that is exempt from FOIA. The final decision as to what information contained in a government-owned record that will be released is determined by the DOE.

65a. How to handle proprietary information and process description under FOIA?

With respect to “proprietary information and process descriptions,” if properly marked proprietary information is contained in a government-owned record, such information is exempt under FOIA Exemption 4, “[t]rade secrets and commercial or financial information obtained from a person and privileged or confidential.” Proprietary information, marked as such and submitted to the government or to Alliance/NREL in a government-owned record, will be treated in accordance with this exemption. The owner of the proprietary information is notified that a FOIA request has been received by DOE and is given an opportunity to submit evidence that the requested information is exempt from the disclosure requirements of FOIA.

65b. Are the grant (sic) responses subject to the Freedom of Information Act?

Alliance/NREL solicitations are for the potential award of subcontracts, not grants. In the event that DOE determines that any Alliance/NREL procurement document is a government-owned record and therefore subject to possible disclosure under FOIA, the courts have held that technical proposals [responses] to solicitations, if deemed to be government-owned records, meet the requirements of Exemption 4, and are not subject to FOIA. NREL, in response to DOE requests for government-owned records, treats this type of information in accordance with Exemption 4 to the FOIA.

Except as otherwise stated in this amendment, the subject LOI remains unchanged.

Should questions arise, please contact the undersigned via e-mail at Kimberley.Hutto@nrel.gov .

Sincerely,

Kim Hutto
Subcontract Administrator