

QUESTIONS AND ANSWERS

TABLE OF QUESTIONS

I. Frequently Asked Questions:	1
Q1. If I have questions about this funding announcement, who do I contact?	1
Q2. How will I receive a response to questions submitted to arpa-e-co@hq.doe.gov about this FOA?	1
Q3. Will ARPA-E post a response to every question submitted to arpa-e-co@hq.doe.gov?	1
Q4. If I have questions about ARPA-E exchange, who do I contact?	1
Q5. Can I speak or meet with the ARPA-E Program Director or other ARPA-E personnel about this funding opportunity announcement?	1
Q6. Can a person be PI on one proposal and a Co-PI on a second separate proposal?	1
Q7. May applicants submit more than one Concept Paper to this funding opportunity?	1
Q8. I have developed a technology that may be a good fit for this funding opportunity. Will ARPA-E please review the attached project information and let me know if I should make a submission to this funding opportunity?	2
II. Questions for week ending: June 14, 2013	2
Q9. Dr. ***** at the University of ***** has some questions about the FOA and would like to speak directly with the project manager. Could we have contact information?	2
Q10. The FOA indicates (section III.D.1) a cost share requirement of at least 20% for phase II and IIs, as applicable. Are the funding limits listed in section II.A (e.g., \$3,225,000 for I/II/IIs) the maximum government share or the maximum total (including cost share)?	2
Q11. Are small business concerns that are majority-owned by multiple venture capital operating companies, hedge funds, and/or private equity firms eligible to apply to this FOA?	2
III. Questions for week ending: June 21, 2013	3
Q12.A. We are considering a substrate oriented effort wherein most of the budget would be used to develop a novel substrate manufacturing technology. We are wondering if the statement at the bottom of table 2 in the FOA is a requirement for a substrate centric effort?	3
<i>Project must demonstrate device driving a hard switched boost (pfc) converter at $f \geq 40$ khz, $v_{out} = 800$ v, $i_{max} = 50$ a.</i>	3
Q12.B. If the answer is yes to Q12.A., then can we put off a boost converter demo until phase IIS?	3
Q13. There are few other substrates specifically identified in the ARPA-E solicitation besides “new GaN” on page 16; “.....new GaN, ZnO, SnO2, sapphire, or other wide bandgap substrate growth techniques.”	3
Given the fact that presently p-type doping in Zinc Oxide (ZnO) is difficult to achieve is this identified substrate intended to be used for GaN epitaxial growth or is ZnO epitaxial growth a viable option?	3
IV. Questions for week ending: June 28, 2013	4
Q14. We notice that an example milestone chart in "Technical Milestones and Deliverables instructions and examples" includes a "Technology to Market" task which seems really nice to have it laid out that way but then in the FOA (Section VI.B.6) it seems to suggest that a Tech to Market plan would not be in the proposal itself. Please advise.	4
Q15. The notice of intent requires indication of percent of effort contributed by lead organization and other members of the team. It doesn't specify phase I, II, or IIS. Or is it for the total project? Please advise.	4

QUESTIONS AND ANSWERS

TABLE OF QUESTIONS

Q16.A. Is the period of performance of Phase I, Phase II, and Phase IIS set? (e.g. Phase I is 1 year, Phase II is 2 years, Phase IIS is 1 year)?.....	4
Q16.B. If Phase I is completed early, can Phase II start early?	4
Q16.C. If Phase I and Phase II and Phase IIS take 4 years, must we add a 4th year to budget forms SF424 and SF424a?	4
V. Questions for week ending: July 5, 2013.....	5
Q17. For the SBIR Phase I/II/IIs program, is the duration for each phase pre-defined, or can the durations be proposed?.....	5
VI. Final Questions received by: July 12, 2013.....	5
Q18. I am trying to go through the various steps to register so that we can submit a proposal by July 19. On page 31 of the announcement, it states that:.....	5
"Applicants must submit their Registration Certificate in ARPA-E exchange as part of their Full Application." 5	
This registration is part of the SBIR process; apparently it is a PDF. We are registered as a SBIR, but I don't see where to get this "certificate". Can you provide some guidance?	5
Q19. I am going through the budget worksheet and justification documents. I noticed one item in there that I want to have clarified. It is stated that	6
"no individual may be paid more than \$200,000 per year under an ARPA-E funding agreement."	6
I would like to have the following clarified: is it possible to have an investigator on the project, whose total salary is more than \$200k, but will only work part time on the project so that ARPA-E is paying considerably less than 200k of his salary?	6
We have a couple of highly skilled (and hence, highly compensated) people on our staff whose expertise is essential to the success of the project. But, they would not be working full time on the project; only 25-35% of their time would be dedicated to the project. Would this violate the "no one over 200k rule"?	6
If it is unacceptable to pay part of their salary with ARPA-E funding, would their contribution to the project be allowable as "in kind" services? For example, if an individual has a salary of \$210,000, and he is working 1/3 of his time on the project, could we claim \$70,000 in in-kind expenses?	6
Q20. The budget justification workbook for this FOA indicates that Year 1 comprises Phase I, Years 2 and 3 comprise Phase II, and Year 4 comprises Phase IIs. Are the maximum government shares of funding for Year 1, Year 2+3 and Year 4 \$225k, \$1500k, and \$1500k, respectively? Or is there some flexibility in the yearly totals as long as the grand total does not exceed \$3,225k.....	6
Q21. The FOA specifies deliverables in Table 2 and 3 which coincide very closely to devices applied at 1700 V for certain volume applications; however, the FOA also discusses "electric power generation" and "Electric Power Transmission" which would typically be developed with devices at higher voltages, i.e., one of the advantages of WBG. Is it ARPA-E's intention to focus on 1200-1700 V technology for this FOA, or is ARPA-E equally receptive to proposals at power transmission and grid voltages?.....	7
Q22. If the application is a combined SBIR/STTR, there is a 30% research institution requirement for effort/budget. Does the 30% have to be allocated to a single institution? If there is more than 1 institution, can the allocation be 25% and 10% to 2 institutions for example?	7
Q23. If you please, provide the time limits for phase I, phase II and phase IIs.....	7

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TABLE OF QUESTIONS

Q24.A. I am seeking clarification about the budget for the program. We plan to submit an application for an SBIR for a combined phase I/II/IIS award. We plan to request \$3.225 million from the government. Questions are as follows: 8

The SF-424a implies that the period of performance for the phase I program has to be 12 months and that the total period of performance has to be 48 months. Conversely, page 21 of the FOA states that the period of performance of the complete program can be up to 48 months. It would be more convenient for us to propose a shorter (6-month) phase I program. Is it acceptable to do so? 8

Q24.B. From the FOA, it seems that the maximum we can request from the government for the phase I element of the program is \$225k. Is this correct? 8

Q24.C. We are thinking of making the following funding request:..... 8

Phase I: \$225 k 8

Phase II yr 1: \$1 million 8

Phase II yr 2: \$1 million 8

Phase IIS: \$1 million 8

Is this acceptable? 8

I. FREQUENTLY ASKED QUESTIONS:

Q1. If I have questions about this funding announcement, who do I contact?

ANSWER: Please see the FOA guidance on submitting FOA content questions and response publication. Applicants may submit questions regarding this ARPA-E's Funding Opportunity Announcement (FOA) to ARPA-E-CO@hq.doe.gov. All emails must include the FOA name and number in the subject line. The cover page and Executive Summary of the Funding Opportunity Announcement state the deadlines for submitting questions to ARPA-E-CO@hq.doe.gov.

Q2. How will I receive a response to questions submitted to arpa-e-co@hq.doe.gov about this FOA?

ANSWER: Responses are posted in the "Frequently Asked Questions" section of ARPA-E's website. There are general FAQs and a FAQ page for each FOA.

ARPA-E will post responses on a weekly basis to any questions that are received.

ARPA-E will cease to accept questions approximately 5 business days in advance of each submission deadline. Responses to questions received before the cutoff will be posted approximately one business day in advance of the submission deadline. ARPA-E may re-phrase questions or consolidate similar questions for administrative purposes.

Q3. Will ARPA-E post a response to every question submitted to arpa-e-co@hq.doe.gov?

ANSWER: No. ARPA-E will only post responses to questions that have not already been addressed by a published FAQ. Also, ARPA-E may consolidate similar questions for administrative purposes.

Q4. If I have questions about ARPA-E exchange, who do I contact?

ANSWER: Applicants may submit questions regarding ARPA-E's online application portal, ARPA-E eXCHANGE, to ExchangeHelp@hq.doe.gov. All emails must include the name and number of the Funding Opportunity Announcement in the subject line.

Q5. Can I speak or meet with the ARPA-E Program Director or other ARPA-E personnel about this funding opportunity announcement?

ANSWER: No. Upon the issuance of this Funding Opportunity Announcement (FOA), ARPA-E Programs and other ARPA-E personnel are prohibited from communicating (in writing or otherwise) with Applicants, or potential Applicants, regarding the FOA. This "quiet period" remains in effect until ARPA-E's public announcement of its project selections. During the "quiet period," Applicants may submit questions regarding the FOA to ARPA-E-CO@hq.doe.gov with the FOA name and number in the subject line. Applicants may also submit questions regarding ARPA-E's online application portal, ARPA-E eXCHANGE, to ExchangeHelp@hq.doe.gov with the FOA name and number in the subject line. ARPA-E will not accept or respond to communications received by other means (e.g., fax, telephone, mail, hand delivery). Emails sent to other email addresses will be disregarded.

Q6. Can a person be PI on one proposal and a Co-PI on a second separate proposal?

ANSWER: Yes, but the applications must be scientifically distinct from one another.

Q7. May applicants submit more than one Concept Paper to this funding opportunity?

ANSWER: Yes, but each Concept Paper submission must be scientifically distinct.

Q8. I have developed a technology that may be a good fit for this funding opportunity. Will ARPA-E please review the attached project information and let me know if I should make a submission to this funding opportunity.

ANSWER: No. Applicants must review the Technical Requirements of this funding opportunity to determine if their technology warrants a submission to ARPA-E.

II. Questions for week ending: JUNE 14, 2013

Q9. Dr. *** at the University of ***** has some questions about the FOA and would like to speak directly with the project manager. Could we have contact information?**

ANSWER: No, applicants may not speak directly with the program director. For more information, please see the response to Q1 above.

Q10. The FOA indicates (section III.D.1) a cost share requirement of at least 20% for phase II and IIs, as applicable. Are the funding limits listed in section II.A (e.g., \$3,225,000 for I/II/IIs) the maximum government share or the maximum total (including cost share)?

ANSWER: The funding limits listed in Section II.A of the FOA are the maximum federal share.

Q11. Are small business concerns that are majority-owned by multiple venture capital operating companies, hedge funds, and/or private equity firms eligible to apply to this FOA?

ANSWER: According to SBA's Guide to SBIR/STTR Eligibility (http://sbir.gov/sites/default/files/elig_size_compliance_guide.pdf):

"A majority (more than 50%) of your firms' equity (e.g., stock) must be directly owned and controlled by one of the following:

- 1) One or more individuals who are citizens or permanent resident aliens of the US,
- 2) Other for-profit small business concerns (each of which is directly owned and controlled by individuals who are citizens or permanent resident aliens of the US).
- 3) A combination of (1) and (2) above.
- 4) Multiple venture capital operating companies, hedge funds, private equity firms, or any combination of these, so long as no one such firm owns or controls more than 50% of the equity. Note: This option is allowed only for SBIR awards from agencies that are using the authority provided in § 5107 of the SBIR/STTR Reauthorization Act (majority-VC-owned authority), 15 U.S.C. § 638(dd)(1).

*The venture capital operating company, hedge fund or private equity firm must have a place of business located in the United States and be created or organized in the United States, or under the law of the United States or of any State.”

ARPA-E intends to make some SBIR awards using the authority set forth in item 4) above. Thus, small business concerns that meet the ownership and control requirements identified in item 4) are eligible to apply to this FOA.

III. Questions for week ending: JUNE 21, 2013

Q12.A. We are considering a substrate oriented effort wherein most of the budget would be used to develop a novel substrate manufacturing technology. We are wondering if the statement at the bottom of table 2 in the FOA is a requirement for a substrate centric effort?

Project must demonstrate device driving a hard switched boost (pfc) converter at $f \geq 40$ khz, $v_{out} = 800$ v, $i_{max} = 50$ a.

ANSWER: Yes.

Q12.B. If the answer is yes to Q12.A., then can we put off a boost converter demo until phase IIS?

ANSWER: Yes.

Q13. There are few other substrates specifically identified in the ARPA-E solicitation besides “new GaN” on page 16; “.....new GaN, ZnO, SnO₂, sapphire, or other wide bandgap substrate growth techniques.”

Given the fact that presently p-type doping in Zinc Oxide (ZnO) is difficult to achieve is this identified substrate intended to be used for GaN epitaxial growth or is ZnO epitaxial growth a viable option?

ANSWER: Both approaches are encouraged, but as outlined in the FOA, must be well justified and have a potential to meet or exceed Primary and Secondary Technical Targets.

IV. Questions for week ending: JUNE 28, 2013

Q14. We notice that an example milestone chart in "Technical Milestones and Deliverables instructions and examples" includes a "Technology to Market" task which seems really nice to have it laid out that way but then in the FOA (Section VI.B.6) it seems to suggest that a Tech to Market plan would not be in the proposal itself. Please advise.

ANSWER: A Technology-to-Market plan is not required as part of the Full Application. Applicants must only submit an initial Technology-to-Market plan to ARPA-E if selected for award negotiations. As illustrated in the example milestones chart in the "Technical Milestones and Deliverables – Instructions and Examples," however, Applicants may include preparation of a Technology-to-Market plan as a task in the draft Technical Milestones and Deliverables submitted with the Full Application.

Q15. The notice of intent requires indication of percent of effort contributed by lead organization and other members of the team. It doesn't specify phase I, II, or IIS. Or is it for the total project? Please advise.

ANSWER: When completing the Notice of Intent and Full Application submissions in ARPA-E eXCHANGE, Applicants should indicate the total percent of effort for the entire project for both the Lead Organization and other Project Team members. If an Applicant is selected for award negotiations, ARPA-E will review the proposed percent of effort by phase for the Lead Organization and other Project Team members by referring to the Budget Justification Workbook/SF-424 submitted with the Applicant's Full Application. In addition, the selected Applicant will be required to complete a SBIR/STTR Funding Agreement Certification form prior to execution of award, in which it certifies that the Project Team meets the percent of effort requirements indicated in Section III.A of the FOA, unless it has been otherwise authorized in writing by the Contracting Officer in response to a written request by the Applicant.

Q16.A. Is the period of performance of Phase I, Phase II, and Phase IIS set? (e.g. Phase I is 1 year, Phase II is 2 years, Phase IIS is 1 year)?

ANSWER: The maximum period of performance for each phase is up to 1 year for Phase I, up to 2 years for Phase II and up to 1 year for Phase IIS. However, the period of performance for each phase may be shorter than the maximum time allotted for each phase.

Q16.B. If Phase I is completed early, can Phase II start early?

ANSWER: Yes, if Phase I is completed early, the project team may begin Phase II, subject to approval of the contracting officer to proceed to Phase II.

Q16.C. If Phase I and Phase II and Phase IIS take 4 years, must we add a 4th year to budget forms SF424 and SF424a?

ANSWER: Applicants need not add a 4th year to the SF-424 or SF-424A. The SF-424 form does not include a section specifying a yearly breakdown of the award budget. In addition, the SF-424A

form for the SWITCHES SBIR/STTR FOA currently reflects a maximum project period of 4 years and includes a specific column for four 12 month budget periods. This SF-424A form is part of the document labeled "Budget Justification Workbook," which is available on ARPA-E eXCHANGE under "Required Application Documents." Applicants to the SWITCHES SBIR/STTR FOA should ensure that they use the appropriate application materials available in eXCHANGE for the SWITCHES SBIR/STTR FOA, including the "Budget Justification Workbook."

V. Questions for week ending: JULY 5, 2013

Q17. For the SBIR Phase I/II/III program, is the duration for each phase pre-defined, or can the durations be proposed?

ANSWER: Applicants may propose periods of performance for each phase up to the maximum time allotted for each phase. For Phase I, Applicants may propose up to 12 months. For Phase II, Applicants may propose up to 24 months. For Phase III, Applicants may propose up to 12 months.

VI. Final Questions received by: JULY 12, 2013

Q18. I am trying to go through the various steps to register so that we can submit a proposal by July 19. On page 31 of the announcement, it states that:

"Applicants must submit their Registration Certificate in ARPA-E exchange as part of their Full Application."

This registration is part of the SBIR process; apparently it is a PDF. We are registered as a SBIR, but I don't see where to get this "certificate". Can you provide some guidance?

ANSWER: For guidance on registering in the Small Business Administration (SBA) Company Registry and submission of troubleshooting questions, please contact SBA via its online helpdesk, available at <http://sbir.gov/feedback?type=req>.

Submission of an SBA Registration Certificate to ARPA-E as part of a Full Application is mandatory. However, applicants will not be penalized if they are unable to obtain the SBA Registration Certificate and upload it onto the ARPA-E eXCHANGE website before the Submission Deadline for Full Applications (5PM ET, July 19, 2013). Applicants may submit their SBA Registration Certificate to ARPA-E after the Submission Deadline at ARPA-E-CO@hq.doe.gov.

Q19. I am going through the budget worksheet and justification documents. I noticed one item in there that I want to have clarified. It is stated that

"no individual may be paid more than \$200,000 per year under an ARPA-E funding agreement."

I would like to have the following clarified: is it possible to have an investigator on the project, whose total salary is more than \$200k, but will only work part time on the project so that ARPA-E is paying considerably less than 200k of his salary?

We have a couple of highly skilled (and hence, highly compensated) people on our staff whose expertise is essential to the success of the project. But, they would not be working full time on the project; only 25-35% of their time would be dedicated to the project. Would this violate the "no one over 200k rule"?

If it is unacceptable to pay part of their salary with ARPA-E funding, would their contribution to the project be allowable as "in kind" services? For example, if an individual has a salary of \$210,000, and he is working 1/3 of his time on the project, could we claim \$70,000 in in-kind expenses?

ANSWER: As stated on page 2 of the "Budget Justification Guidance (SBIR-STTR)" document available in ARPA-E eXCHANGE (<https://arpa-e-foa.energy.gov/>), "No individual may be paid more than \$200,000 per year under an ARPA-E funding agreement." The \$200,000 limit refers to the maximum amount of funding that ARPA-E can allow for a single individual under an ARPA-E award. It does not set a limit on the total, overall salary of an individual employee outside an ARPA-E award.

Q20. The budget justification workbook for this FOA indicates that Year 1 comprises Phase I, Years 2 and 3 comprise Phase II, and Year 4 comprises Phase IIs. Are the maximum government shares of funding for Year 1, Year 2+3 and Year 4 \$225k, \$1500k, and \$1500k, respectively? Or is there some flexibility in the yearly totals as long as the grand total does not exceed \$3,225k

ANSWER: The maximum Federal funding each phase of an SBIR/STTR projects is as follows: \$225,000 for Phase I; \$1,500,000 for Phase II; and \$1,500,000 for Phase IIS. There is no flexibility to deviate from these statutory maximums.

Q21. The FOA specifies deliverables in Table 2 and 3 which coincide very closely to devices applied at 1700 V for certain volume applications; however, the FOA also discusses "electric power generation" and "Electric Power Transmission" which would typically be developed with devices at higher voltages, i.e., one of the advantages of WBG. Is it ARPA-E's intention to focus on 1200-1700 V technology for this FOA, or is ARPA-E equally receptive to proposals at power transmission and grid voltages?

ANSWER: The objective of the FOA is to reach functional cost parity with high voltage silicon power semiconductor devices. ARPA-E will consider all proposals that show strong evidence of being able to meet or exceed Primary and Secondary Technical FOA targets.

Q22. If the application is a combined SBIR/STTR, there is a 30% research institution requirement for effort/budget. Does the 30% have to be allocated to a single institution? If there is more than 1 institution, can the allocation be 25% and 10% to 2 institutions for example?

ANSWER: As stated in Section III.B.1 of the FOA, "[i]n STTR projects, a single Research Institution must perform at least 30%, but no more than 60%, of the work under the award in Phase I, Phase II, and/or Phase IIS (as applicable), as measured by the Total Project Cost." The 30% requirement must be met by one Research Institution and cannot be divided up amongst multiple Research Institutions.

Also, for clarification purposes, please note that, while Applicants eligible for funding under both the SBIR and STTR programs may submit a single application for both programs, ARPA-E will issue funding under only one of the programs. ARPA-E does not issue combined SBIR/STTR awards.

Q23. If you please, provide the time limits for phase I, phase II and phase IIs.

ANSWER: Please see the response to Q16.A above.

Q24.A. I am seeking clarification about the budget for the program. We plan to submit an application for an SBIR for a combined phase I/II/IIS award. We plan to request \$3.225 million from the government. Questions are as follows:

The SF-424a implies that the period of performance for the phase I program has to be 12 months and that the total period of performance has to be 48 months. Conversely, page 21 of the FOA states that the period of performance of the complete program can be up to 48 months. It would be more convenient for us to propose a shorter (6-month) phase I program. Is it acceptable to do so?

ANSWER: Please see the response to Q17 above.

Q24.B. From the FOA, it seems that the maximum we can request from the government for the phase I element of the program is \$225k. Is this correct?

ANSWER: Yes, this is correct.

Q24.C. We are thinking of making the following funding request:

PHASE I: \$225 K
PHASE II YR 1: \$1 MILLION
PHASE II YR 2: \$1 MILLION
PHASE IIS: \$1 MILLION

Is this acceptable?

ANSWER: No, the proposed funding scheme is not acceptable. ARPA-E cannot exceed the following statutory maximums for each phase: \$225,000 for Phase I; \$1,500,000 for Phase II; and \$1,500,000 for Phase IIS.