From:

Jones-Albertus, Becca

Sent:

Friday, June 15, 2018 12:37 PM

To:

Tinker, Lenny; Nilsen, Garrett; Gay, Charlie; Shultz, Avi; Ulrich, Elaine; Vauss, Ebony; Yuan,

Guohui

Subject:

RE: Draft SETO priorities with limited staff

I've already let Tim know this is coming.

From: Tinker, Lenny

Sent: Friday, June 15, 2018 3:14 PM

To: Nilsen, Garrett <Garrett.Nilsen@ee.doe.gov>; Gay, Charlie <Charlie.Gay@EE.DOE.Gov>; Jones-Albertus, Becca

<Becca.Jones-Albertus@ee.doe.gov>; Shultz, Avi <Abraham.Shultz@EE.Doe.Gov>; Ulrich, Elaine

<Elaine.Ulrich@ee.Doe.Gov>; Vauss, Ebony <Ebony.Vauss@ee.doe.gov>; Yuan, Guohui <Guohui.Yuan@EE.Doe.Gov>

Subject: RE: Draft SETO priorities with limited staff

Thanks Garrett!

All: Any other reactions / comments?

Charlie and Becca: Do you think this is something you would want to provide to Tim?

-Lenny

From: Nilsen, Garrett

Sent: Friday, June 15, 2018 1:11 PM

To: Tinker, Lenny < Lenny. Tinker@ee. Doe. Gov >; Gay, Charlie < Charlie. Gay@EE. DOE. Gov >; Jones-Albertus, Becca

<Becca.Jones-Albertus@ee.doe.gov>; Shultz, Avi <Abraham.Shultz@EE.Doe.Gov>; Ulrich, Elaine

<<u>Elaine.Ulrich@ee.Doe.Gov</u>>; Vauss, Ebony <<u>Ebony.Vauss@ee.doe.gov</u>>; Yuan, Guohui <<u>Guohui.Yuan@EE.Doe.Gov</u>>

Subject: RE: Draft SETO priorities with limited staff

Thanks for putting this together Lenny.

Some comments below

Garrett Nilsen Program Manager, Technology to Market Acting Program Manager, Soft Costs

Solar Energy Technologies Office U.S. Department of Energy (202) 287-1676 Office (b) (6) Cell Garrett.Nilsen@ee.doe.gov

| • |
|--|
| From: Tinker, Lenny Sent: Tuesday, June 12, 2018 4:27 PM To: Gay, Charlie < Charlie.Gay@EE.DOE.Gov >; Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov >; Nilsen, Garrett < Garrett.Nilsen@ee.doe.gov >; Shultz, Avi < Abraham.Shultz@EE.Doe.Gov >; Ulrich, Elaine < Elaine.Ulrich@ee.Doe.Gov >; Vauss, Ebony < Ebony.Vauss@ee.doe.gov >; Yuan, Guohui < Guohui.Yuan@EE.Doe.Gov > Subject: Draft SETO priorities with limited staff |
| Ali: |
| I drafted the following list of prioritized and deprioritized activities. Please send me any comments by the end of this week (just to keep this moving towards a final list). This is an internal PM draft that contains sensitive language and is not for distribution. After we agree to the priorities and Charlie receives feedback from Tim, we should talk about how to communicate the priorities to staff. |
| -Lenny |
| (b) (5) |
| Main priorities for staff and SETO: (b) (5) |
| |
| • |
| • |
| Activities that will be deprioritized or abandoned during times of insufficient staff capabilities (b) (5) |

(b) (5)

From:

Kane, Victor

Sent:

Wednesday, August 29, 2018 12;43 PM

To:

Jones-Albertus, Becca

Subject:

SETO FY18 FOA Topic 1 cost estimate.xlsx

Attachments:

SETO FY18 FOA Topic 1 cost estimate.xlsx

Hi Becca,

The estimate of the total cost to administer topic 1 for the FY18 SETO FOA was (b) (5) for a full breakdown of how this number was arrived at.

. Please see the attached file

Best,

Victor

topic specific work

- 1. team topic ideas meetings
- 2. Workshops
- 3. Topic refinement
- 4. FRD 1 topic language drafting, review and approval
- 5. FOA topic summary language drafting, review, and approval
- 6. FOA topic detailed language for full FOA drafting review and approval
- 8. Reviewer recruitment
- 9. Concept paper review and preparation
- 10. Full application review and preparation
- 11. Merit review coordination and participation
- 12. Selection decision and briefing preparation
- 13. Merit review advisory report preparation review and approval

total person hours number of person years fully burdened cost of a perso total cost

known cost

number of reviewers reviewer payment

total review cost

total cost

(b) (5)

(b) (5)

this needs to be verified

our each

From:

Hendrickson, Randall

Sent:

Saturday, September 01, 2018 9:27 AM

To:

Vonglis, John G.; Forcier, Bridget

Cc:

Johns, Christopher

Subject:

RE: Solar FOA Change

Roger.

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Date: Saturday, Sep 01, 2018, 08:04

To: Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov >, Forcier, Bridget < Bridget. Forcier@hq.doe.gov >

Cc: Johns, Christopher < Christopher. Johns @Hq. Doe. Gov>

Subject: FW: Solar FOA Change

Thank you, Bridget.

Randy,

We need to discuss a way ahead here.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Date: Friday, Aug 31, 2018, 10:51 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Johns, Christopher < Christopher. Johns @ Hq. Doe. Gov>

Subject: RE: Solar FOA Change

John,

Bindu Jacob, EERE, called me late yesterday afternoon and told me that they intended to send out this afternoon a Notice of Intent for a new solor FOA at the same time they planned to notify applicants under a previous FOI that they were cancelling a current FOA because of a change in scope. The conversation was this is what we are doing/decision made/(b) (5)

Mindy confirmed after Jaime

emailed that the Notice of Intent and the letters to the previous applicants were sent out at 3 pm today.

Just for your information I had another similar type of issue this afternoon (b) (5)

CI said we would meet on Monday but ExecSec wants S1 to sign when he returns next week. (b) (5)

Also, Perry Yates from HEWD Majority asked for a briefing yesterday on (b) (5)

. (b) (5)

(b)(5)

I am not sure what can be done at this point about the solar FOA since the Notice of Intent and letters to the applicants cancelling the previous FOI was sent out a 3 pm today(b) (5)
(b) (5)

Bridget

From: Vonglis, John G.

Sent: Friday, August 31, 2018 8:19 PM

To: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>

Subject: FW: Solar FOA Change

Importance: High

Please advise.

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>, Johns, Christopher < Christopher. Johns@Hq.Doe.Gov>, Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here - which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the preaward negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angie <Angie.Giancarlo@mail.house.gov>; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

From: Renfro, Mindy L. [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >; Giancarlo, Angie < Angie. Giancarlo@mail.house.gov >; Yates, Perry <Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov>; Yates, Perry < Perry. Yates@mail.house.gov>; Shimek, Jaime

<Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

From:

Forcier, Bridget

Sent:

Tuesday, September 04, 2018 6:06 AM

To:

Johns, Christopher

Subject:

FW: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration

Technologies Notice of Intent

(b)(5)

Bridget

From: Jacob, Bindu <Bindu.Jacob@ee.doe.gov>

Date: Sunday, Sep 02, 2018, 2:24 AM

To: Renfro, Mindy <<u>renfroml@id.doe.gov</u>>, Jones, Dylan <<u>Dylan.Jones@EE.Doe.Gov</u>>, Wahlert, Kayt <<u>Kayt.Wahlert@ee.Doe.Gov</u>>, Gruse, Jessica (CONTR) <<u>Jessica.Gruse@EE.DOE.Gov</u>>, Barth, John <<u>John.Barth@ee.doe.gov</u>>, EERE Legislative Affairs <<u>EERELegAffairs@EE.Doe.Gov</u>>, DeCesaro, Jennifer

<Jennifer.Decesaro@ee.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

How about this for the first question.

The FOA (DE-FOA-0001850) was initially announced in April, 2018. It included 4 topics. The only topic that is being changed is Topic 1, Advanced Solar Systems Integration. The other 3 topics are still being evaluated for award determinations.

As stated in the revision notice, the topic area is being changed to better align the FOA to the mission objectives of DOE. The revised language for the topic will be announced as a new FOA in September. EERE continues to evaluate the other Topic Areas to make award determinations.

From: Renfro, Mindy L < renfroml@id.doe.gov>

Date: Saturday, Sep 01, 2018, 9:23 PM

To: Jacob, Bindu <<u>Bindu.Jacob@ee.doe.gov</u>>, Jones, Dylan <<u>Dylan.Jones@EE.Doe.Gov</u>>, Wahlert, Kayt <<u>Kayt.Wahlert@ee.Doe.Gov</u>>, Gruse, Jessica (CONTR) <<u>Jessica.Gruse@EE.DOE.Gov</u>>, Barth, John <<u>John.Barth@ee.doe.gov</u>>, EERE Legislative Affairs <<u>EERELegAffairs@EE.Doe.Gov</u>>, DeCesaro, Jennifer

<Jennifer.Decesaro@ee.doe.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>

Subject; RE: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

Bindu -

Can you give me some more information on the first question? How many Topic Areas were in the FOA? Topic Area 1 was changed . . . why? How long ago was the FOA announced? We want to give Jaime all the information we can so she doesn't keep coming back to us with more questions. Thanks!!

Mindy

From: Jacob, Bindu <Bindu.Jacob@ee.doe.gov> Sent: Saturday, September 1, 2018 1:05 PM

To: Renfro, Mindy L <renfroml@id.doe.gov>; Jones, Dylan <Dylan.Jones@EE.Doe.Gov>; Wahlert, Kayt <Kayt.Wahlert@ee.Doe.Gov>; Gruse, Jessica (CONTR) <Jessica.Gruse@EE.DOE.Gov>; Barth, John <John.Barth@ee.doe.gov>; EERE Legislative Affairs <EERELegAffairs@EE.Doe.Gov>; DeCesaro, Jennifer <Jennifer.Decesaro@ee.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

Mindy,

As you know, the NOI was posted Friday at 3:00. The topic 1 notifications on the existing Solar FOA went out to all applicants who submitted concept papers and applications.

Answers to the questions:

How far along was the FOA process? EERE continues to evaluate the other Topic Areas to make award determinations.

Had applicants been selected and notified? No selection notifications have gone out on this topic or any of the other topics in the FOA.

From: Renfro, Mindy L <renfroml@id.doe.gov>

Date: Friday, Aug 31, 2018, 4:51 PM

To: Jacob, Bindu <<u>Bindu.Jacob@ee.doe.gov</u>>, Jones, Dylan <<u>Dylan.Jones@EE.Doe.Gov</u>>, Wahlert, Kayt <<u>Kayt.Wahlert@ee.Doe.Gov</u>>, Gruse, Jessica (CONTR) <<u>Jessica.Gruse@EE.DOE.Gov</u>>, Barth, John <<u>John.Barth@ee.doe.gov</u>>, EERE Legislative Affairs <<u>EERELegAffairs@EE.Doe.Gov</u>>, DeCesaro, Jennifer

<Jennifer.Decesaro@ee.doe.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>

Subject: FW: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

Jaime Shimek, HEWD Minority Clerk, has requested answers on this FOA. She asked that we not do anything publicly or formally as far as notifications go until the appropriators understand what is happening with this.

• How far along was the FOA process? Had applicants been selected and notified?

Let me know if you have any questions. I'll forward your answers along as soon as you send them to me. Thanks!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260 From: Jacob, Bindu < Bindu.Jacob@ee.doe.gov>

Sent: Friday, August 31, 2018 10:27 AM

To: Fitzsimmons, Alexander <Alexander.Fitzsimmons@ee.doe.gov>; Forcier, Bridget <Bridget.Forcier@hq.doe.gov>;

Renfro, Mindy L < renfroml@id.doe.gov >

Cc: Brace, Conner < Conner.Brace@hq.doe.gov>; Oliver, Martha < Martha.Oliver@hq.doe.gov>; Mills, Allison

>; DeCesaro, Jennifer < Jennifer.Decesaro@ee.doe.gov>; Szymanski, Jessica

<Jessica.Szymanski@hq.doe.gov>

Subject: RE: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

Here is a revised revision notice for topic area 1. We found 2 grammatical issues (thank you Mindy for finding one of

them).

From: Fitzsimmons, Alexander

Sent: Thursday, August 30, 2018 7:55 PM

To: Jacob, Bindu < Bindu.Jacob@ee.doe.gov >; Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Renfro, Mindy

<<u>renfroml@id.doe.gov</u>>

Cc: Brace, Conner < Conner.Brace@hq.doe.gov>; Oliver, Martha < Martha.Oliver@hq.doe.gov>; Mills, Allison

<<u>Allison.Mills@hq.doe.gov</u>>; DeCesaro, Jennifer <<u>Jennifer.Decesaro@ee.doe.gov</u>>; Szymanski, Jessica

<Jessica.Szymanski@hq.doe.gov>

Subject: RE: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

Thanks Bindu. Adding Jess.

From: Jacob, Bindu

Sent: Thursday, August 30, 2018 7:46 PM

To: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Renfro, Mindy < renfroml@id.doe.gov >

Cc: Brace, Conner < Conner.Brace@hq.doe.gov>; Oliver, Martha < Martha.Oliver@hq.doe.gov>; Mills, Allison

<a href="mailto:, Fitzsimmons, Alexander, Fitzsimmons, Fitzsimmons<a href="mailto:Al

<<u>Alexander.Fitzsimmons@ee.doe.gov</u>>

Subject: FW: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

+CF / revised distribution to a smaller group

Also attached is the revision notice (SETO FOA Topic Area 1 Notice with NOI document) that will go out to all applicants who submitted applications to the existing Solar FOA, topic 1. These notices will go out at 3:00 PM EST at the same time that the NOI is posted. The revision notice also includes a copy of the NOI.

Bridget –As discussed, can you send an advance notice to approps staff at 2:00 PM EST.

Conner – I defer to CI if anyone else requires advance notice.

Please reach out with any concerns.

Thank you,

Bindu Jacob | Deputy Assistant Secretary for Operations Energy Efficiency and Renewable Energy O: (202) 586-3821 From: Horst, John

Sent: Thursday, August 30, 2018 7:14 PM

To: Fitzsimmons, Alexander <<u>Alexander.Fitzsimmons@ee.doe.gov</u>>; Jayne, Kevin A. <<u>Kevin.Jayne@ee.doe.gov</u>>; Jones,

Dylan < Dylan.Jones@EE.Doe.Gov >; Gruse, Jessica (CONTR) < <u>Jessica.Gruse@EE.DOE.Gov</u> >; Wahlert, Kayt

<Kayt.Wahlert@ee.Doe.Gov>; Mills, Allison <Allison.Mills@hq.doe.gov>; Oliver, Martha <Martha.Oliver@hq.doe.gov>;

Brace, Conner < Conner. Brace@hq.doe.gov >; EERE Legislative Affairs < EERELeg Affairs@EE. Doe. Gov >; Rivers, Jennifer

<<u>Jennifer.Rivers@ee.doe.gov</u>>; EEREStakeholderEngagement <<u>EEREStakeholderEngagement@EE.Doe.Gov</u>>

Cc: Unruh, Timothy < Timothy. Unruh@EE. Doe. Gov>; Hamos, Ian < Ian. Hamos@EE. doe. gov>; Gay, Charlie

<<u>Charlie.Gay@EE.DOE.Gov</u>>; Murley, Susanna (CONTR) <<u>Susanna.Murley@EE.DOE.Gov</u>>; Vauss, Ebony

< <u>Ebony. Vauss@ee.doe.gov</u>>; Bristol, Jennifer (CONTR) < <u>Jennifer. Bristol@EE.doe.gov</u>>; Brodie, Pamela

<Pamela.Brodie@ee.Doe.Gov</p>
; Jacob, Bindu <Bindu.Jacob@ee.doe.gov</p>
; DeCesaro, Jennifer

<<u>Jennifer.Decesaro@ee.doe.gov</u>>; Barendsen, Eric <<u>Eric.Barendsen@ee.doe.gov</u>>; Sher, Jono <<u>jono.sher@ee.doe.gov</u>>;

Stowers, Christina (CONTR) < Christina.Stowers@EE.Doe.Gov; Cone, Kristin (CONTR) < Kane, Kristin (CONTR) < a href="mailto:Kristin.Cone@EE.DOE.Gov">Kristin (CONTR) < a href="mailto:Kristin.Cone@EE.DOE.Gov">Kristin (CONTR) < a href="mailto:Kristin.Cone@EE.DOE.Gov">Kristin.Cone@EE.DOE.Gov; Kane, Kristin (CONTR) < a href="mailto:Kristin.Cone@EE.DOE.Gov">Kristin.Cone@EE.DOE.Gov; Kane, Kristin.Cone@EE.DOE.Gov; Kane, Kristin.Cone.Gov; Kane, Kristin.Cone.Gov; Kane, Kristin.Cone.Gov; Kane, Kristin.Cone.Gov; Kane, Kristi

Victor < Victor.Kane@EE.Doe.Gov >; Fricker, Kyle < Kyle.Fricker@EE.DOE.Gov >; Goldstone, Michael

<Michael.Goldstone@ee.doe.gov>

Subject: 24-hour sensitivity check for: SETO's Advanced Solar Systems Integration Technologies Notice of Intent

Hello,

EERE's Solar Energy Technologies Office (SETO) would like to issue a Notice of Intent (NOI) for its "Advanced Solar Systems Integration Technologies." The focus supports early-stage research and development to improve the performance and flexibility of solar technologies that contribute to a reliable and resilient U.S. electric grid. SETO invests in innovative research efforts that securely integrate more solar energy into the grid, enhance the use, storage and dispatch of solar energy, and lower solar electricity costs.

Areas of Interest:

Solar Grid Integration — This topic will support applications to research and field validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should identify the strategic location of solar photovoltaic (PV) systems that will ensure the Energy Sector provides continuity of service in the face of wide spread and coordinated threats.

Solar Situational Awareness and Analysis – This topic will support applications to research and field validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should enhance operator capability to observe solar systems deployed throughout the bulk power systems or associated transmission to distribution substations or Behind-the-Meter (BTM) solar including but not limited to battery storage, systems controls, and demand response. Primary focus areas include solar photovoltaic integrated sensor technologies, secure and robust electricity supply delivery and communication tools, advanced data analytics including Artificial Intelligence and Machine to Machine capabilities, and voltage testing.

Solar Technology Transfer – This topic will explore unique and innovative approaches to accelerate the transfer of solar system solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Potential areas of interest include, but are not limited to, projects or models that deploy alternative capital, for technology R&D transfer, incentivize industry-researcher collaboration, leverage existing facilities or capabilities, data and build approaches and methods that serve to drive down the hardware cost and ensure solutions, validation, certifications, resilience and electricity supply to withstand wide spread and coordinated threats compatible with Topic 1.1 and Topic 1.2

| EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. | |
|---|---------|
| period of performance for each award will be approximately 3 years. For more, see the attached NOI. | (b) (5) |
| b) (5) | |

Thanks, John

John Horst, APR U.S. Department of Energy Energy Efficiency and Renewable Energy Communications | Media Relations Office: 720-356-1580 Mobile: (b) (6)

From:

Murley, Susanna (CONTR)

Sent:

Tuesday, September 04, 2018 7:47 AM

To:

Jones-Albertus, Becca

Cc:

Gay, Charlie

Subject:

RE: Fwd: Following up

Yupl

Susanna Murley

Strategic Support Team Lead

The Building People, LLC | U.S. Department of Energy Contractor supporting the Solar Energy Technologies Office Office of Energy Efficiency and Renewable Energy

Office: 202.287.1637 | Cell: (b) (6)

From: Jones-Albertus, Becca

Sent: Tuesday, September 04, 2018 10;43 AM

To: Murley, Susanna (CONTR) < Susanna. Murley@EE.DOE.Gov>

Cc: Gay, Charlie < Charlie.Gay@EE.DOE.Gov>

Subject: FW: Fwd: Following up

Hi Susanna,

Could you take a crack at this one? I already pointed out that (b) (5) we are okay to proceed with this response.

but I think

Thanks,
 Becca

From: Jayne, Kevin A.

Sent: Friday, August 31, 2018 9:33 AM

To: Hamos, Ian < Ian. Hamos@EE.doe.gov>; Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov>; Gay, Charlie

<<u>Charlie.Gay@EE.DOE.Gov</u>>
Subject: RE: Fwd; Following up

By the end of next week will be fine, Thanks all.

From: Hamos, Ian <Ian, Hamos@EE.doe.gov>

Date: Friday, Aug 31, 2018, 9:25 AM

To: Jones-Albertus, Becca < Becca, Jones-Albertus@ee.doe.gov >, Gay, Charlie < Charlie, Gay@EE.DOE.Gov >, Jayne, Kevin A.

< Kevin.Jayne@ee.doe.gov> Subject: Fwd: Following up

Solar team,

We were asked yesterday on a quick turn to provide examples of disruptive technology (b) (5)

Apparently that was interesting to them and they want more info. Can you help out here? Not sure exact timeline but I would imagine fairly quick. I'm on the way to NYC, so can you work directly with Kevin?

Kevin- can you let us know the timeline?

Tbanks, Ian

From: "Jayne, Kevin A." < Kevin.Jayne@ee.doe.gov>

Sent: Aug 31, 2018 9:09 AM

To: "Hamos, Ian" < Ian. Hamos @EE.doe.gov>

Subject: Following up

Hey Ian,

Thanks again for sending along your list of disruptive technologies. Can you please provide more details on the technology listed below? Thanks!

Solar: (b) (5) (b) (5)

Best,

Kevin

From:

Vonglis, John G.

Sent:

Tuesday, September 04, 2018 8:02 AM

To:

Forcier, Bridget; Johns, Christopher

Subject:

FW: Solar FOA

Attachments:

SETO FOA Topic Area 1 Notice with NOI 20180831 Final.docx

Please square this for me.

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Kolb, Ingrid

Sent: Tuesday, September 04, 2018 11:00 AM
To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Subject: Solar FOA

Jamie may have been calling you about an announcement that EERE made on Friday that they are changing a topic area within one of their solar Funding Opportunity Announcements (FOAs) and applicants who submitted responses addressing that topic will need to reapply. Attached is the notice. (b) (5)

My understanding is (b) (5)

(b)(5)

SETO FOA TOPIC AREA 1 NOTICE

On behalf of the Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), we would like to thank you for submitting an application in response to the Solar Energy Technology Office (SETO) FY18 Funding Opportunity Announcement (FOA) DE-FOA-0001840. We are writing to inform you of a change to Topic Area 1 of the FOA, Advanced Solar Systems Integration Technologies.

DOE is committed to improving the affordability of energy technologies and strengthening the Energy Sector's capability to withstand cyber and physical threats, including natural disasters. Improving the strategic location and situational awareness of solar systems can help ensure continuity of service in the face of widespread and coordinated threats. Developing innovative approaches to accelerate the transfer of solar system solutions that will improve Energy Sector resilience is also a priority.

In order to better align the FOA objectives to the mission objectives of DOE, EERE plans to revise Topic Area 1 and issue a new FOA. Because a new FOA is planned, if you would like to apply to the revised Topic Area 1, an application must be submitted under the new FOA in EERE Exchange by the deadline. Please carefully review the revised emphasis and program objectives when the new FOA is issued, and revise your application accordingly.

On behalf of EERE, we would like to express our sincere appreciation for the significant time and effort you and your team invested in preparing this application, and for your interest and participation in the EERE Solar Energy Technologies Office activities. We hope that you will continue to participate in future activities and programs with EERE.

The Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0001987 is provided below for your reference.



Notice of Intent No. DE-FOA-0001986

Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0001987

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Solar Energy Technology Office, a Funding Opportunity Announcement (FOA) entitled "Advanced Solar Systems integration Technologies".

This FOA supports the mission of the Solar Energy Technologies Office (SETO) which is to support early-stage research and development to improve the performance and flexibility of solar technologies that contribute to a reliable and resilient U.S. electric grid. The office invests in innovative research efforts that securely integrate more solar energy into the grid, enhance the use, storage and dispatch of solar energy, and lower solar electricity costs.

DOE is committed to improving the affordability of energy technologies and strengthening the Energy Sector's capability to withstand cyber and physical threats, including natural disasters. Improving the strategic location and situational awareness of solar systems can help ensure continuity of service in the face of widespread and coordinated threats. Developing innovative approaches to accelerate the transfer of solar system solutions that will improve Energy Sector resilience is also a priority.

It is anticipated that the FOA may include the following Areas of Interest:

Topic 1.1 Solar Grid Integration

This topic will support applications to research and field validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should identify the strategic location of solar photovoltaic (PV) systems that will ensure the Energy Sector provides continuity of service in the face of wide spread and coordinated threats. These solutions can be deployed throughout the bulk power systems or associated transmission to distribution substations. It is expected that the same design concepts will be applicable for energy storage and other distributed energy resources (DERs). The approaches will test the systems' ability to operate and adapt at both steady and degraded states. Applications must consider diverse DER options (e.g. photovoltaics, energy storage, and flexible load)

This is a Notice of Intent (NOI) only. EERE may issue a FOA as described herein, may issue a FOA that is significantly different than the FOA described herein, or EERE may not issue a FOA at all.



available as well as power systems engineering alternatives, and demonstrate the benefits of the proposed solutions. It should also be shown in these solutions how a fleet of multiple photovoltaics systems from multiple locations will be able to respond to fast changing conditions under normal operations and provide power to critical loads during grid outages — with consideration of other DER options and distribution system constraints. Example projects may include, but are not limited to, new design and use-case concepts, essential reliability services, adaptive capabilities, voltage support, previously uncontemplated and unique capabilities and control hardware and software innovations for smart PV inverters and DER management systems. Applications must have an assessment of economic viability of the proposed system, activity or component in the respective part of the project.

Applicant's solar photovoltaic projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These solar photovoltaic projects shall seek to reduce vulnerabilities, minimize consequences, identify and disrupt threats, and hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

Topic 1.2 Solar Situational Awareness and Analysis

This Topic will support applications to research and field validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should enhance operator capability to observe solar systems deployed throughout the bulk power systems or associated transmission to distribution substations or Behind-the-Meter (BTM) solar including but not limited to battery storage, systems controls, and demand response. Primary focus areas include solar photovoltaic integrated sensor technologies, secure and robust electricity supply delivery and communication tools, advanced data analytics including Artificial Intelligence and Machine to Machine capabilities, and voltage testing. Projects with secondary focus areas may also be considered which include the integration of observed data into planning, operations and business unit systems that would operate at both steady and degraded states. Applications must have an assessment of economic viability of the proposed system, activity or component in the respective part of the project.

Applicant's solar situational awareness and analysis projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These projects shall seek to contribute to one or

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more risk components: reduce vulnerabilities, minimize consequences, identify and disrupt threats, and/or hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

Topic 1.3 Solar Technology Transfer

This topic will explore unique and innovative approaches to accelerate the transfer of solar system solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Potential areas of interest include, but are not limited to, projects or models that deploy alternative capital, for technology R&D transfer, incentivize industry-researcher collaboration, leverage existing facilities or capabilities, data and build approaches and methods that serve to drive down the hardware cost and ensure solutions, validation, certifications, resilience and electricity supply to withstand wide spread and coordinated threats compatible with Topic 1.1 and Topic 1.2

Applicant's solar technology transfer projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These projects shall seek to contribute to one or more risk components: reduce vulnerabilities, minimize consequences, identify and disrupt threats, and/or hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award will be approximately 3 years.

This Notice is issued so that interested parties are aware of the EERE's intention to issue this FOA in the near term. All of the information contained in this Notice is subject to change. EERE will not respond to questions concerning this Notice. Once the FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA on or about September 15, 2018 via the EERE Exchange website https://eere-exchange.energy.gov/. If Applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE Exchange. When the FOA is released, applications will be accepted only through EERE Exchange.

This is a Notice of Intent (NOI) only. EERE may issue a FOA as described herein, may issue a FOA that is significantly different than the FOA described herein, or EERE may not issue a FOA at all.



In anticipation of the FOA being released, Applicants are advised to complete the following steps, which are <u>required</u> for application submission:

Register and create an account in EERE Exchange at https://eere-exchange.energy.gov/. This account will allow the user to register for any open EERE FOAs that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: EERE-ExchangeSupport@hq.doe.gov

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at http://fedgov.dnb.com/webform
- Register with the System for Award Management (SAM) at https://www.sam.gov. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register in FedConnect at https://www.fedconnect.net/. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect Ready Set Go.pdf
- Register in Grants.gov to receive automatic updates when Amendments to a FOA are
 posted. However, please note that applications will not be accepted through
 Grants.gov. http://www.grants.gov/. All applications must be submitted through EERE Exchange.

This is a Notice of Intent (NOI) only. EERE may issue a FOA as described herein, may issue a FOA that is significantly different than the FOA described herein, or EERE may not issue a FOA at all.

From:

Ramsey, Tim

Sent:

Tuesday, September 04, 2018 10:09 AM

To:

Garson, Jennifer; Hamos, Ian

Cc:

Moraski, Lauren

Subject:

FW: FOAs

Importance:

High

FYI

Tim Ramsey

Program Manager for Marine and Hydrokinetic U.S. Department of Energy Office of Energy Efficiency and Renewable Energy Water Power Technologies Office

Phone: 240.562.1758

Stay current with the Water Power Technologies Office: Subscribe to our Breaking News email.

From: Merrick, Laura

Sent: Tuesday, September 04, 2018 8:49 AM To: Ramsey, Tim <Tim.Ramsey@ee.doe.gov>

Subject: FW: FOAs Importance: High

Tim,

It looks like the three Water awards can proceed as conditional awards (b) (5)

Thanks, Laura

From: Carabajal, Stephanie

Sent: Tuesday, September 04, 2018 7:08 AM
To: Merrick, Laura < Laura. Merrick@ee.doe.gov >

Subject: FW: FOAs Importance: High

FYI. (b) (5)

can proceed as conditional awards.

Thanks, Stephanie From: Passarelli, Derek

Sent: Monday, September 03, 2018 9:50 PM

To: Carabajal, Stephanie < Stephanie. Carabajal@ee. Doe. Gov>

Subject: FW: FOAs Importance: High

FYI. Ok from your end?

From: Jacob, Bindu <Bindu.Jacob@ee.doe.gov>

Date: Monday, Sep 03, 2018, 1:36 PM

To: Passarelli, Derek < Derek.Passarelli@ee.doe.gov >

Subject: RE: FOAs

(b)(5)

From: Passarelli, Derek < Derek. Passarelli@ee.doe.gov>

Date: Friday, Aug 31, 2018, 2:55 PM

To: Jacob, Bindu <Bindu.Jacob@ee.doe.gov>

Subject: RE: FOAs

Bindu,

Stephanie reached out to NETL and discussed with Ray Jarr. She explained what we have been doing and the need to coordinate with you on changes to the FOA. They were still figuring out what they are doing on SSL. We will reconvene with NETL on Tuesday to go more in depth.

Do you know if wind and water had their selection briefings?

| Program | Award# | Recipient | Action | FOA |
|---------|------------------|-----------------------|--------------------------------|-------------------|
| | Factor Control | | | |
| Water | DE- EE0008389 | U of Alaska Fairbanks | Fully Conditional Award | 1663 - (b) (5) |
| Water | DE- EE0006609 | SGT/DR | fully conditional cost overrun | 848 |
| Water | DE- EE0008388 | Enorasy LLC | Fully Conditional Award | 1663- (b) (5) |
| Wind | DE- EE0008390 | NYSERDA | Fully Conditional Award | 1767 |

Derek

From: Passarelli, Derek

Sent: Thursday, August 30, 2018 7:17 PM

To: Jacob, Bindu <Bindu.Jacob@ee.doe.gov>

Subject: RE: FOAs

Will do.

From: Jacob, Bindu <Bindu_Jacob@ee.doe.gov>

Date: Thursday, Aug 30, 2018, 6:54 PM

To: Passarelli, Derek < Derek.Passarelli@ee.doe.gov>

Subject: RE: FOAs

If you could reach out to NETL, that would be great. I want to be sure we are coordinated on notifications for mods. It would be good for you to walk them through the process we just went through so that they handle it consistently.

From: Passarelli, Derek

Sent: Thursday, August 30, 2018 12:26 PM **To:** Jacob, Bindu < Bindu. Jacob@ee.doe.gov>

Subject: RE: FOAs

Bindu,

We are in agreement that the Building America and Solar FOA are the two GFO FOAs requiring modification. No communication has gone out on the BTO FOA. Our understanding is that BTO is still trying to get clarification on what changes actually need to be made. Depending on those changes, we will work with BTO and EERE senior management to decide whether to cancel the previous FOA and issue a new one or revise the current FOA and re-post with an extended due date. We will send emails to all applicants once they have a clear path forward.

As for SETO, I have been working with Cathy, Alex and Charlie. The current plan is to issue a notice cancelling Topic 1 of the current FOA simultaneously with issuing a Notice of Intent to issue the new Topic Area 1 FOA. Alex just sent me his revisions to the Notice language. Our crew is working with Charlie's crew to review the language and prepare the NOI. (b) (5)

I defer to you as to how to proceed if he does not get a chance to brief Cathy and

Alex today or tomorrow.

Do you want me to reach out to NETL to check in on the SSL FOA?

From: Jacob, Bindu

Sent: Thursday, August 30, 2018 5:45 AM

To: Passarelli, Derek < Derek. Passarelli@ee.doe.gov>

Subject: FOAs

I believe the o PY FOAs with modifications are 2 BTO FOAs (Building America and SSL which is managed by NETL) and the Solar FOA. Is that consistent with your understanding?

Has any communication gone out on the BTO FOA?

From:

Jones-Albertus, Becca

Sent:

Wednesday, September 05, 2018 5:57 AM

To:

Vauss, Ebony; Werner, Mary (NREL)

Subject:

RE: FOA #1840 - Topic 1 cancelled?

Hi Mary,

Topic 1 has been canceled and an NOI released for a replacement. Those are the only announcements about the FOA.

Best, Becca

From: Vauss, Ebony < Ebony. Vauss@ec.doe.gov>

Date: Wednesday, Sep 05, 2018, 8:48 AM

To: Werner, Mary (NREL) < mary.werner@nrel.gov>

Cc: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov>

Subject: RE: FOA #1840 - Topic 1 cancelled?

Not that I am aware of. Becca would be a better point of contact.

Best,

Ebony, Solar Office (202) 586-9879 (b) (6)

From: Werner, Mary [mailto:Mary.Werner@nrel.gov]

Sent: Tuesday, September 04, 2018 12:55 PM
To: Vauss, Ebony <Ebony.Vauss@ee.doe.gov>
Subject: FOA #1840 - Topic 1 cancelled?

Hi Ebony,

We are hearing from partners that topic 1 of the FOA #1840 was cancelled. Are any other parts of the FOA going to be cancelled?

Thanks in advance! Mary

From:

Murley, Susanna (CONTR)

Sent:

Wednesday, September 05, 2018 7:00 AM

To:

Singsen, Jeannette

Cc:

Vauss, Ebony, Jones-Albertus, Becca

Subject:

RE: Weekly Update - Financial Assistance Work Plans

(b)(5)

Susanna Murley

Strategic Support Team Lead

The Building People, LLC | U.S. Department of Energy Contractor supporting the Solar Energy Technologies Office Office of Energy Efficiency and Renewable Energy

Office: 202.287.1637 | Cell: (b) (6)

From: Singsen, Jeannette

Sent: Wednesday, September 05, 2018 9:34 AM

To: Murley, Susanna (CONTR) <Susanna.Murley@EE,DOE.Gov>

Cc: Vauss, Ebony <Ebony. Vauss@ee.doe.gov>; Jones-Albertus, Becca <Becca. Jones-Albertus@ee.doe.gov>

Subject: RE: Weekly Update - Financial Assistance Work Plans

Thanks, Susanna. I can add a new line for the "Advanced Solar Systems Integration Technologies" FOA described in the NOI.(b) (5)

| FOA# | FOA Name / Brief Description | \$ Value (Estimated or Actual) | # Se ection (Estimated Actual) 55 | |
|----------------|---|--------------------------------|--|--|
| DE-FOA-0001840 | Solar Energy Technologies Office FY18 Funding Opportunity Announcement | (b) (5) | | |
| TBD | Advanced Solar Systems Integration Technologies (reissue of cancelled Topic 1 from SETO FY18 FOA) | TBD (up to \$(b) (5) | TBD (up to 15) | |

Jeannette

Phone: 240-562-1782

From: Murley, Susanna (CONTR)

Sent: Wednesday, September 05, 2018 7:10 AM

To: Singsen, Jeannette < Jeannette, Singsen@EE.Doe, Gov>

Cc: Vauss, Ebony < Ebony Vauss@ee.doe.gov >; Jones-Albertus, Becca < Becca.lones-Albertus@ee.doe.gov >

Subject: RE: Weekly Update - Financial Assistance Work Plans

Hi Jeannette -

One of our topics was cancelled in our FY18 FOA and our selections have been delayed. See update below.

| # | FOA# | FOA Name / Brief Description | \$ Value (Estimated or Actual) | # Selections (Estimated or Actual) | Fiscal Year Funding | Туре | DOE Points of Contact | Status of FOA Process | Comms Plan Summary (FOA) | Date - FOA Release |
|----|--------------------|---|--------------------------------------|---|---------------------------|------|--------------------------------|-----------------------------|-----------------------------------|--------------------------|
| 10 | DE-FOA- 0001840 | Solar Energy Technologies Office FY18 Funding Opportunity Announcement | (b) (5) | 55 | FY18 | FOA | Dr. Charles Gay | (b) (5) | | 4/1.7/201 |

An NOI was issued for a new FOA, but I don't have the required information to add it. Here is the link: https://eere-exchange.energy.gov/default.aspx#Foald2bbe24fe-f075-4d1b-8ab7-0df723807696. I would suggest reaching out to EERE for that information.

Best,

Susanna

Susanna Murley

Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202.287,1637 | Cell: (b) (6)

From: Singsen, Jeannette

Sent: Tuesday, September 04, 2018 10:23 AM

To: DL-EERE Operations Council < DL-EEREOperations Council @ EE, Doe, Gov >

Cc: Carabajal, Stephanie <<u>Stephanie.Carabajal@ee.Doe.Gov</u>>; Zeh, Charles (NETL) <<u>charles.zeh@netl.doe.gov</u>>; Hinkle, Harold (NETL) <<u>harold.hinkle@netl.doe.gov</u>>; Kennedy, Melinda <<u>melinda.kennedy@netl.doe.gov</u>>; Crooms, Andrea

<Andrea.Crooms@ee.doe.gov>; Cabaniss, John <John.Cabaniss@ee.doe.gov>; Garson, Jennifer

<Jennifer.Garson@EE.doe.gov>; Roy, Molly <Molly.Roy@ee.Doe.Gov>; Morrison, Daniel

<<u>Daniel.Morrison@ee.doe.gov</u>>; Barendsen, Erlc <<u>Eric.Barendsen@ee.doe.gov</u>>; Murley, Susanna (CONTR)

<<u>Susanna.Murley@EE.DOE.Gov</u>>; Wahlert, Kayt <<u>Kayt.Wahlert@ee.Doe.Gov</u>>; Peralta, Kara Houston

<KaraHouston, Peralta@ee.doe.gov>; Pezzullo, Leslie <Leslie, Pezzullo@ee.doe.gov>; Buck, Michael

<Michael.Buck@ee.doe.gov>; Kouch, Tina <Christina.Kouch@ee.doe.gov>; Gomes, Luke <Luke.Gomes@EE.Doe.Gov>;

Anderson, Sid <<u>Sid.Anderson@em.doe.gov</u>>; Pearce, Casey <<u>Casey.Pearce@ee.doe.gov</u>>; Hartman, Liz

<Llz.Hartman@ee.doe.gov>; Burgess, Marilyn <Marilyn.Burgess@ee.doe.gov>; Bristol, Jennifer (CONTR)

<!ennifer.Bristol@EE.doe.gov>; Hayes, Philip <Philip.Hayes@ee.doe.gov>; Wozniak, Genevieve

<Genevieve.Wozniak@EE.Doe.Gov>

Subject: Weekly Update - Financial Assistance Work Plans

Operations Supervisors,

Please send me any weekly updates to the Work Plan for Approved FOAs by noon tomorrow (Wednesday).

I have attached an updated version of the Work Plan for your review and edit.

Thank you!

Jeannette Singsen Project Management Coordination Office (PMCO) Office of Energy Efficiency and Renewable Energy U.S. Department of Energy Phone: 240-562-1782

Join PMCO for the Project Management Workshop Series

Details on PM Central: http://eere-intranet2.ee.doe.gov/APMC/apm-workshop-series

PMCO provides Project Management analytical support, tools and training. Contact us at PMhelpdesk@ee.doe.gov

PMCO Leads the Federal Program and Project Management Community of Practice
FedPM CoP is the central source for best practices in federal program and project management
Website via OMB MAX: https://go.max.gov/fedpmcop

Sent: Thursday, September 06, 2018 1:15 PM

To: Gay, Charlie; Unruh, Timothy; Hamos, Ian

Cc: Yuan, Guohui

Subject: Questions on the revised Topic 1,

Hi Charlie, Tim and Ian,

Here are some questions we may want to answer before topic 1 is released:

(b)(5)

Here is the NOI:

Applicant's solar photovoltaic projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These solar photovoltaic projects shall seek to reduce vulnerabilities, minimize consequences, identify and disrupt threats, and hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

From:

Yuan, Guohui

Sent:

Thursday, September 06, 2018 1:52 PM

To:

Bobo, Diana

Cc:

Gay, Charlie; Jones-Albertus, Becca

Subject:

RE: New SI Topic 1 FOA

+ Charlie and Becca for awareness.

From: Yuan, Guohui < Guohui Yuan@EE, Doc. Gov>

Date: Thursday, Sep 06, 2018, 1:33 PM
To: Bobo, Diana < Diana, Bobo@ee.doe.gov>

Subject: RE: New SI Topic 1 FOA

Diana,

No news from my side. I have not been involved, so far, with the decision on topic 1 reissuance.

Guohui

From: Bobo, Diana < <u>Diana.Bobo@ee.doe.gov</u>> Date: Thursday, Sep 06, 2018, 12:19 PM

To: Yuan, Guohui < Guohui. Yuan@EE. Doe. Gov>

Subject: New SI Topic 1 FOA

Hi Guohui,

Have you heard anything about the new SI FOA? I was just wondering if anyone is working on the new FRD and FOA document.

Thank you, Diana

From:

Gay, Charlie

Sent:

Thursday, September 06, 2018 4:50 PM

To:

Jones-Albertus, Becca

Cc:

Yuan, Guohui; Unruh, Timothy

Subject:

RE: Questions on the revised Topic 1 (FY18 SETO FOA)

Thanks Becca!

- Charlie 202-287-1987

From: Jones-Albertus, Becca < Becca, Jones-Albertus@ee.doe.gov>

Date: Thursday, Sep 06, 2018, 7:23 PM

To: Gay, Charlie < Charlie.Gay@EE.DOE.Gov >, Unruh, Timothy < Timothy.Unruh@EE.Doe.Gov >

Cc: Yuan, Guohui < Guohui. Yuan @EE. Doe. Gov>

Subject: Questions on the revised Topic 1 (FY18 SETO FOA)

Hi Charlie and Tim,

Here are some items we may want to address before the new version of topic 1 from the FY18 SETO FOA is released: (b) (5)

Becca

From:

Nilsen, Garrett

Sent:

Monday, September 10, 2018 6:58 AM

To:

Gay, Charlie; Jones-Albertus, Becca

Cc:

Tinker, Lenny

Subject:

RE: Potential Approaches to Grouping Selections from Topic Area 3 and 4

Sorry to only be chiming in now. I will be very interested to hear Steve's thoughts on how proceed. Based on what you said last week Charlie, (b) (5)

FYI, (b) (5)

From: Gay, Charlie

Sent: Saturday, September 08, 2018 3:50 AM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Cc: Nilsen, Garrett < Garrett. Nilsen@ee.doe.gov>; Tinker, Lenny < Lenny. Tinker@ee. Doe. Gov>

Subject: RE: Potential Approaches to Grouping Selections from Topic Area 3 and 4

Thanks Becca:

I connected with Steve and indicated that we would connect with him in the first half of next week with some ideas for his feedback.

- Charlie

202-287-1987

From: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov>

Date: Friday, Sep 07, 2018, 10:45 PM

To: Tinker, Lenny < Lenny. Tinker@ee. Doe. Gov >, Gay, Charlie < Charlie. Gay@BE. DOE. Gov >

Cc: Nilsen, Garrett < Garrett. Nilsen@ee.doe.gov>

Subject: RE: Potential Approaches to Grouping Selections from Topic Area 3 and 4

Hi all,

(b)(5)

(b)

(5)

I would suggest bins

like:

(b) (5)

-(b)(5)And, as mentioned above: $_{-}(b)(5)$ Just my initial thoughts. Becca From: Tinker, Lenny <Lenny.Tinker@ee.Doe.Gov> Date: Friday, Sep 07, 2018, 4:16 PM To: Gay, Charlie < Charlie.Gay@EE.DOE.Gov >, Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov > Cc: Nilsen, Garrett < Garrett. Nilsen@ee, doe.gov> Subject: RE: Potential Approaches to Grouping Selections from Topic Area 3 and 4 My initial thought is that we could bin topics (b) (5) It seems(b) (5) Let me know what you think. (b) (5) thinking about other potential groupings for all of topics (b) (5) while -Lenny From: Gay, Charlie Sent: Friday, September 07, 2018 3:46 PM To: Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov > Cc: Tinker, Lenny < Lenny. Tinker@ee. Doe. Gov >; Nilsen, Garrett < Garrett. Nilsen@ee. doe. gov > Subject: Potential Approaches to Grouping Selections from Topic Area 3 and 4 Hi Becca: Lenny and I discussed (b) (5) Charlie

202-287-1987

From:

Jones-Albertus, Becca

Sent:

Monday, September 10, 2018 8:21 AM

To:

Murley, Susanna (CONTR)

Subject:

RE: Today's agenda

Just one - PM offsite agenda

From: Murley, Susanna (CONTR)

Sent: Monday, September 10, 2018 10:23 AM

NAMES AND ADDRESS OF THE PARTY OF THE PARTY

To: Gay, Charlie < Charlie.Gay@EE.DOE.Gov>; Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov>; Vauss, Ebony

<Ebony.Vauss@ee.doe.gov> Subject: Today's agenda

Hi Charlie, Becca, Ebony -

Please let me know if you have any updates to today's PM meeting agenda.

Best,

Susanna

For Discussion

- 1. (b) (5)
- 2.
- 3.
- 4.

| September | | |
|---|---------------|---------|
| Topic 1 Cancellation & NOI Alert | (b) (5) | EERE |
| Power Connectors Progress Alert | | Victor |
| Systems Integration FOA | <u>-</u> 1 | EERE |
| Start 3-day sensitivity check | | EERE |
| SETO FOA Selections | n 2 | Kyle |
| Start 3-day sensitivity check | | Susanna |
| October | | |
| Peer Review Report | October TBD | Dave |
| November | | |
| Solar Prize – Ready Winners | (b) (5) | Victor |
| Send press release & materials to EERE | | Susanna |
| Start 24-hour sensitivity check | | Susanna |
| | ♥ 16 | |

Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202:287.1637 | Cell: (b) (6)

From:

Gay, Charlie

Sent:

Monday, September 10, 2018 9:42 AM

To:

Jones-Albertus, Becca

Subject:

RE: Offsite on Wednesday

Hi Becca:

(b)(5)

Overall question is how might we better collaborate?

Charlie
 202-287-1987

From: Tinker, Lenny

Sent: Monday, September 10, 2018 12:02 PM

To: DL-EERE-4S PMsolar < DL-EERE-4SPMSolar@ee.doe.gov>

Subject: RE: Offsite on Wednesday

A couple things that came to mind are below.

-Lenny

- (b) (5)
- .
- •
- .
- .

-

From: Jones-Albertus, Becca

Sent: Sunday, September 09, 2018 9:23 PM

To: DL-EERE-4S PMsolar < DL-EERE-4SPMSolar@ee.doe.gov>

Subject: Offsite on Wednesday

Hi all,

Please send me any agenda items you'd like to have for Wednesday's offsite. We can discuss further at PM meeting tomorrow.

Thanks,

Becca

From: Unruh, Timothy

Sent: Monday, September 10, 2018 1:55 PM

To: Hamos, Ian

Subject: FW: Solar FOA Topic 1 - Time Frame and Facts

Attachments: SETO Topic 1 and SETO Introduction - Materials for OE Review; RE: Geothermal FOA; RE:

Geothermal FOA; Items for today's Tag-up Meeting; Solar Language; Solar FOA Stats;

RE: FOA Topic 1

FYI – I provided my documentation on the process of cancelling the FOA as I recalled, should it be needed.

thx

Timothy D. Unruh, Ph.D., PE, CEM, LEED AP United States Department of Energy Deputy Assistant Secretary – Renewable Power 1000 Independence Ave SW, Washington, DC 20585 (202) 586-2982

From: Unruh, Timothy

Sent: Monday, September 10, 2018 4:53 PM
To: Unruh, Timothy <Timothy.Unruh@EE.Doe.Gov>
Subject: Solar FOA Topic 1 - Time Frame and Facts

On Friday, September 7, in a meeting reviewing the awards for the Solar FOA in 2018, EE-1 made statements about the timeline of the decision to cancel Topic 1 of this Solar FOA. EE-1 stated that it was decided to be cancelled back in July, 2018. (b) (6) and wanted to document what I knew to have happened.

July 23, 2018

This was my first meeting with EE-1. In this meeting, I mentioned that the Solar FOA was nearing completion, and asked about the method she preferred to have the awards presented. She told me about several statistics that she wanted to see about selections, non-selections, etc. I provided this information to Steve Chalk, who incorporated them into a presentation put forth by FCTO. Also at that time, EE-1 indicated she wanted to have Katie Jezera look at the Solar FOA to ensure that the Office of Electricity (OE) had helped to craft the language. I assured EE-1 that OE had been consulted in the drafting of the FOA, but EE-1 wanted to have Katie review also. It was decided that Katie would attend our next meeting.

July 30, 2018

This was my second meeting with EE-1. In this meeting, Katie Jezera was in attendance to provide information about OE coordination of the Solar FOA. Katie was not clear on what coordination had been done, and in talking through the language had several questions. Both Katie and EE-1 talked about some language that they thought was not clear, and were interested in altering that language to make it more clear. I then let them know that the Solar FOA had already been issues some time back, and that I did not think we could change the language on something already released to the public.

July 30, 2018

Later in the day, after the EE-1 meeting, at the DAS Coordination meeting, Bindu Jacob let us (DAS's) know that she had some questions from EE-1 about changing FOAs already on the street. (b) (5)

(b) (5)

July 30, 2018

I stopped by EE-1's office to alert that FOAs could be changed, and that Bindu was working with GFO on how it would work. EE-1 asked if I could provide a separate document of the Topic 1 Solar FOA language, along with the FOA preamble to allow it to be shared with Bruce Walker to see if he thought changes were necessary. I provided that document in an email on July 30, 2018 (attached as file SETO Topic 1 and SETO Introduction – Materials for OE Review).

July 31, 2018

A meeting was scheduled by Katie Jezera, but it turned out to be in error, and no meeting was actually held.

August 1, 2018

I received an email from Katie regarding other FOAs that EE-1 asked about OE coordination, and in that email, Katie indicated that the Geothermal FOA was ok from OE.

August 2, 2018

I replied back to the August 1, 2018 email to Katie thanking for the information, and asking if there was any more information on Water FOA topic 2.2 and Solar FOA topic 1.0. I followed up again this day (after having another EE-1 regular meeting) to ask Katie if there was any further information. Knowing that the FOA was being merit reviewed added to the urgency to know if a FOA change was going to happen, and the significance of that change. Katie responded that the Water FOA Topic 2.2 was ok from OE. She also responded that the Solar FOA Topic 1 had no further information yet.

August 6-10

(b) (6)

August 6, 2018

I email Katie asking if there is any update on the Solar language, and she replies that there is no further information. EE-1 responded that same day stating that Bruce Walker was working on the language, and gave a description that was unclear(b) (5)

That email chain is attached as file (RE Geothermal FOA).

August 8, 2018

August 9, 2018

I emailed EE-1 asking if there was any update yet from Bruce Walker. On August 9, EE-1 responded that there was an update, and that she was looking for me in my office to discuss, (b) (6)

No further email was received about the

subject of the new language or the extent of the change requested. I responded on August 9 regarding (b) (6)
, and offered to talk via phone any time the next day, or (b) (6)

to be in the office. No response to this offer was received. These emails are attached as file: RE Geothermal FOA 2. Later on August 9, I informed EE-1 that I (b) (6) would be in the office to receive any updates on the Solar FOA Topic 1 language first thing the next week.

August 15, 2018

With no word from EE-1 on any language changes, I emailed EE-1 asking for any status. In that same email, I informed EE-1, that OE would be participating in the Federal Consensus Panel for Topic 1 (the only topic with OE relevance), which was a fulfillment of a request made by EE-1 (EE-1 had asked what part of the selection process should OE participate at an earlier date, and then asked for them to have at least 3 persons on the Federal Consensus panel). At this point, with

no language from EE-1 or Bruce Walker, and with EE-1 asking for OE participation, (b) (5)

August 16, 2018

I emailed a summary of agenda items to cover for my regular meeting with EE-1. In that email, I mentioned again that OE is participating in the Federal Consensus Panel, and the we still awaited language from Bruce Walker. That email is attached as file: Items for Today's Tag-up Meeting.

August 17, 2018

The tag-up meeting was delayed, occurring at the end of the day on August 17. In that meeting, discussions around the Solar FOA language were still somewhat ambiguous, and it was unclear (b) (5)

In that meeting, EE-1 wondered (b) (5)

In that meeting, (b) (5)

In this meeting, EE-1 inquired as to how many responses had been received by the Solar FOA, and in particular, how many responses were received on Topic 1.

August 21, 2018

I emailed EE-1 asking if there was any update to the Solar FOA language. I indicated that the Federal Consensus Panel was meeting that week, and information would be helpful. Email attached in file: Solar Language.

August 22, 2018

I emailed EE-1 providing the information about the responses to the Solar FOA, including information the entire FOA response. The email is included in file: Solar FOA Stats

EE-1 provided a response to this email (b) (5), (b) (6)

but in that email, it was stated:

(b) (5)

Several erroneous statements are in this email, but in this paragraph, here are the facts behind these statements:

- 1) I was always able to explain the Solar FOA Topic 1 language. There was no confusion in my part, (b) (5)
- 2) I did not EVER commit to going forward with an Amendment Process, but agreed to work with EE-1 to see if changes were needed.
- 3) I tried to explain to EE-1 the process of securing funds for carry-over and early release the next year. The funds had already been held by the program and were not in jeopardy. (b) (5)

August 27, 2018

In my regular meeting, I sent an agenda of items to EE-1, and included on the agenda is to get any update on the Solar FOA language. This language update had now been promised from EE-1 since late July, and no information about any changes or its content had been provided. At that meeting, I was told we still don't have any update.

August 27, 2018, after hours

I received an email from Charlie Gay and included Derek Passarelli from GFO indicating some language had been produced by EE-1 and provided to GFO. In a subsequent phone call with Derek, he stated (b) (5)

(b) (5) On the phone call, Derek asked(b) (5) Email in file: RE FOA Topic 1.

Subsequent:

(b) (5) but didn't hear any formal word about what was to be done until Thursday, when I received an email from John Horst telling about the posting of a Notice of Intent regarding a new Solar Topic. The next week, I learned, again, informally, that GFO had sent out cancellation notices to all who applied to Solar FOA Topic 1.

From:

Unruh, Timothy

Sent:

Monday, July 30, 2018 1:27 PM

To:

Tripodi, Cathy

Cc:

Fitzsimmons, Alexander; Hamos, Ian

Subject:

SETO Topic 1 and SETO Introduction - Materials for OE Review

Attachments:

DE-FOA-0001840_SETO_FY18_FOA_TOPIC 1 Systems Integration.docx

Attached is the document with the SETO FOA Topic 1, and, at the end of the document is the paste of the general introduction.

Thanks.

From:

Tripodi, Cathy

Sent:

Monday, August 06, 2018 12:27 PM

To:

Jereza, Catherine; Unruh, Timothy

Subject:

RE: Geothermal FOA

I spoke to Bruce Walker and he is working on the language. He was hoping to have something by Wednesday. He wants the solar to be located closer to the grid to serve a national security priority mission. It would be best to wait for Bruce's language because I think I am unable to explain it like he can. Thanks.

From: Jereza, Catherine

Sent: Monday, August 06, 2018 3:22 PM

To: Unruh, Timothy <Timothy.Unruh@EE.Doe.Gov> Cc: Tripodi, Cathy <Cathy.Tripodi@hq.doe.gov>

Subject: RE: Geothermal FOA

Sorry - I don't have one yet.

From: Unruh, Timothy

Sent: Monday, August 06, 2018 12:27 PM

To: Jereza, Catherine < Catherine. Jereza@Hq. Doe. Gov>

Cc: Tripodi, Cathy < Cathy. Tripodi@hq.doe.gov>

Subject: RE: Geothermal FOA

Any update on the Solar FOA language?

Thx

From: "Jereza, Catherine" < Catherine.Jereza@Hq.Doe.Gov>

Sent: Aug 2, 2018 9:19 AM

To: "Unruh, Timothy" < Timothy. Unruh@EE.Doe.Gov>

Subject: RE: Geothermal FOA

I was just about to send you an email! The no-news first. I'm not sure about the Solar, I'll have to get back to you on that.

The Water is ok. I don't have any changes.

Best

Katie

----Original Message-----From: Unruh, Timothy

Sent: Thursday, August 02, 2018 12:11 PM

To: Jereza, Catherine < Catherine. Jereza @ Hq. Doe. Gov >

Subject: FW: Geothermal FOA

Did you think you will have information back on the Water and Solar FOAs today? I wanted to update the programs on the status.

Timothy D. Unruh, Ph.D., PE, CEM, LEED AP United States Department of Energy Deputy Assistant Secretary – Renewable Power 1000 Independence Ave SW, Washington, DC 20585 (202) 586-2982

----Original Message-----From: Unruh, Timothy

Sent: Thursday, August 02, 2018 7:45 AM

To: Jereza, Catherine < <u>Catherine.Jereza@Hq.Doe.Gov</u>> Ce: Tripodi, Cathy < <u>Cathy.Tripodi@hq.doe.gov</u>>

Subject: RE: Geothermal FOA

Thanks, we look forward to your feedback on the Water Power FOA: Topic Area 2.2 and the Solar FOA: Topic Area 1.

Thanks!

Timothy D. Unruh, Ph.D., PE, CEM, LEED AP United States Department of Energy Deputy Assistant Secretary – Renewable Power 1000 Independence Ave SW, Washington, DC 20585 (202) 586-2982

----Original Message-----From: Jereza, Catherine

Sent: Wednesday, August 01, 2018 8:50 PM

To: Unruh, Timothy < Timothy. Unruh@EE. Doe. Gov > Cc: Tripodi, Cathy < Cathy. Tripodi@hq.doe.gov >

Subject: Geothermal FOA

Hi Tim - thanks for the meet up/not meet up yesterday. I had a chance to review this FOA and don't have any changes.

I'll get back on the other items as soon as possible.

Katie

Catherine Jereza
Deputy Assistant Secretary, Transmission Permitting & Technical Assistance
Office of Electricity
U.S. Department of Energy
(o) 202.586.0334
(c) (b) (6)

Vivian Walton vivian.walton@hq.doe.gov 202.586.3876

^{**} Please contact Vivian for all meeting and scheduling requests. **

From:

Unruh, Timothy

Sent:

Thursday, August 09, 2018 1:01 PM

To:

Tripodi, Cathy Jereza, Catherine

Cc: Subject:

RE: Geothermal FOA

I am on travel this week, Cathy. I am at the IEEE mtg in Portland. I am vice chair on a standards group, and use the meeting to meet my annual continuing education requirements.

I am at PNNL. On Monday and Tuesday, travelling back Wednesday. I am available for a conference any time tmorow, or if you need me in the office, I will cancel the PNNL trip.

Let me know.

Thx

From: "Tripodi, Cathy" <Cathy.Tripodi@hq.doe.gov>

Sent: Aug 9, 2018 12:09 PM

To: "Unruh, Timothy" <Timothy.Unruh@EE.Doe.Gov>Co: "Jereza, Catherine" <Catherine.Jereza@Hq.Doe.Gov>

Subject: RE: Geothermal FOA

HI Tim:

Bruce and I were trying to find a time to discuss with you. I have looked for you several times this week to discuss. I keep missing you. Will discuss when we can all schedule a time to review.

Thanks, Cathy T.

From: Unruh, Timothy

Sent: Thursday, August 09, 2018 2:24 PM To: Tripodi, Cathy <Cathy.Tripodi@hq.doe.gov>

Cc: Jereza, Catherine < Catherine. Jereza@Hq. Doe. Gov>

Subject: RE: Geothermal FOA

Anything from Bruce yet?

Thanks.

From: Unruh, Timothy

Sent: Wednesday, August 08, 2018 1:23 PM
To: Tripodi, Cathy < Cathy. Tripodi@hq.doe.gov >
Cc: Jereza, Catherine < Catherine Jereza@Hq.Doe.Gov >

Subject: RE: Geothermal FOA

Just checking back in to see if you have heard from Bruce.

Thanks

Timothy D. Unruh, Ph.D., PE, CEM, LEED AP
United States Department of Energy
Deputy Assistant Secretary – Renewable Power
1000 Independence Ave SW, Washington, DC 20585
(202) 586-2982

From: Tripodi, Cathy

Sent: Monday, August 06, 2018 3:27 PM

To: Jereza, Catherine < Catherine.Jereza@Hq.Doe.Gov>; Unruh, Timothy < Timothy.Unruh@EE.Doe.Gov>

Subject: RE: Geothermal FOA

I spoke to Bruce Walker and he is working on the language. He was hoping to have something by Wednesday. He wants the solar to be located closer to the grid to serve a national security priority mission. It would be best to wait for Bruce's language because I think I am unable to explain it like he can. Thanks.

From: Jereza, Catherine

Sent: Monday, August 06, 2018 3:22 PM

To: Unruh, Timothy < <u>Timothy.Unruh@EE.Doe.Gov</u>>
Cc: Tripodi, Cathy < <u>Cathy.Tripodi@hq.doe.gov</u>>

Subject: RE: Geothermal FOA

Sorry - I don't have one yet.

From: Unruh, Timothy

Sent: Monday, August 06, 2018 12:27 PM

To: Jereza, Catherine < Catherine Jereza@Hq.Doe.Gov>

Cc: Tripodi, Cathy < Cathy. Tripodi@hq.doe.gov>

Subject: RE: Geothermal FOA

Any update on the Solar FOA language?

Thx

From: "Jereza, Catherine" < Catherine.Jereza@Hq.Doe.Gov>

Sent: Aug 2, 2018 9:19 AM

To: "Unruh, Timothy" < Timothy. Unruh@EE. Doe. Gov>

Subject: RE: Geothermal FOA

I was just about to send you an email! The no-news first. I'm not sure about the Solar, I'll have to get back to you on that.

The Water is ok. I don't have any changes.

Best Katie

----Original Message-----From: Unruh, Timothy

Sent: Thursday, August 02, 2018 12:11 PM

To: Jereza, Catherine < Catherine.Jereza@Hq.Doe.Gov>

Subject: FW: Geothermal FOA

Did you think you will have information back on the Water and Solar FOAs today? I wanted to update the programs on the status.

thx

Timothy D. Unruh, Ph.D., PE, CEM, LEED AP United States Department of Energy Deputy Assistant Secretary – Renewable Power 1000 Independence Ave SW, Washington, DC 20585 (202) 586-2982

----Original Message-----From: Unruh, Timothy

Sent: Thursday, August 02, 2018 7:45 AM

To: Jereza, Catherine < <u>Catherine.Jereza@Hq.Doe.Gov</u>> Cc: Tripodi, Cathy < <u>Cathy.Tripodi@hq.doe.gov</u>>

Subject: RE: Geothermal FOA

Thanks, we look forward to your feedback on the Water Power FOA: Topic Area 2.2 and the Solar FOA: Topic Area 1.

Thanks!

Timothy D. Unruh, Ph.D., PE, CEM, LEED AP United States Department of Energy Deputy Assistant Secretary – Renewable Power 1000 Independence Ave SW, Washington, DC 20585 (202) 586-2982

-----Original Message-----From: Jereza, Catherine

Sent: Wednesday, August 01, 2018 8:50 PM

To: Unruh, Timothy < <u>Timothy.Unruh@EE.Doe.Gov</u>> Cc: Tripodi, Cathy < <u>Cathy.Tripodi@hq.doe.gov</u>>

Subject: Geothermal FOA

Hi Tim - thanks for the meet up/not meet up yesterday. I had a chance to review this FOA and don't have any changes.

I'll get back on the other items as soon as possible.

Katie

Catherine Jereza

Deputy Assistant Secretary, Transmission Permitting & Technical Assistance Office of Electricity
U.S. Department of Energy
(o) 202.586.0334
(c) (b) (6)

Vivian Walton vivian.walton@hq.doe.gov 202.586.3876

** Please contact Vivian for all meeting and scheduling requests. **

From:

Unruh, Timothy

Sent:

Thursday, August 16, 2018 5:58 AM

To:

Tripodi, Cathy

Cc:

Fitzsimmons, Alexander; Hamos, Ian

Subject:

Items for today's Tag-up Meeting

I wanted to give you a heads-up to the topics I need to cover with you today:

- 1) Wind Program Leadership (b) (5), (b) (6)
- 2) Solar FOA Language (b) (5)
- 3) Solar Prize Briefing (b) (5)
- 4) Geothermal Zonal Isolation FOA Awards (b) (5)
- 5) Geothermal Bevond Batteries Lab Call (b) (5)
- 6) Wind Alternate FOA (b) (5)

From:

Unruh, Timothy

Sent:

Tuesday, August 21, 2018 6:35 AM

To:

Tripodi, Cathy

Cc:

Fitzsimmons, Alexander; Hamos, Ian

Subject:

Solar Language

Importance:

High

Do you have any update on the language in the Solar FOA? Last Friday you indicated that it was still under consideration by Bruce Walker. They are holding the Federal Consensus Panel this week, so any information at this time would be useful.

Thanks.

From:

Unruh, Timothy

Sent:

Tuesday, August 21, 2018 7:13 AM

To:

Tripodi, Cathy

Cc:

Fitzsimmons, Alexander; Hamos, Ian

Subject:

Solar FOA Stats

Friday, you requested some preliminary stats from the Solar FOA. You wanted to know how many applications we received on Topic 1 (in italics and underlined, below). Here is the information for the full FOA as well.

of Applications Received:

0

0

Ö

0

Overall, they received (b) (5)Concept Papers initially.

From:

Passarelli, Derek

Sent:

Monday, August 27, 2018 2:35 PM

To:

Unruh, Timothy

Subject:

RE: FOA Topic 1

Please call me. 240-562-1600.

From: Unruh, Timothy

Sent: Monday, August 27, 2018 3:30 PM

To: Passarelli, Derek < Derek. Passarelli@ee.doe.gov>

Subject: FW: FOA Topic 1

Dis you get any revised language? We have been waiting to see it.

From: "Gay, Charlie" < Charlie.Gay@EE.DOE.Gov>

Sent: Aug 27, 2018 5:07 PM

To: "Unruh, Timothy" < Timothy. Unruh@EE. Doe. Gov>

Cc: "Hamos, Ian" < Ian. Hamos @EE. doe.gov>

Subject: FW: FOA Topic 1

fyi

Charlie 202-287-1987

From: Yuan, Guohui

Sent: Monday, August 27, 2018 5:01 PM

To: Gay, Charlie < Charlie. Gay@EE.DOE.Gov >; Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov >

Subject: FW: FOA Topic 1

From: Bobo, Diana < Diana. Bobo@ee.doe.gov>

Date: Monday, Aug 27, 2018, 4:28 PM

To: Fricker, Kyle < Kyle Fricker@EE.DOE.Gov >, Yuan, Guohui < Guohui.Yuan@EE.Doe.Gov >

Cc: Pfrangle, Clay < Clay. Pfrangle@EE. Doe. Gov>

Subject: FOA Topic 1

Hi Kyle and Guohui,

Derek Passarelli just informed me that Kathy Tripodi is seeking to revise Topic 1 of the FOA and re-post. Are you available tomorrow to discuss the proposed language?

Thanks,

Diana

From:

Jones-Albertus, Becca

Sent:

Tuesday, September 11, 2018 6:18 AM

To: Subject: Ferguson, Jamal (CONTR) RE: FY18 FOA follow up

Thanks!

From: Ferguson, Jamal (CONTR)

Sent: Tuesday, September 11, 2018 9:01 AM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: FY18 FOA follow up

Hi Becca,

Just sent the invite for today at 4:30 pm. Charlie's schedule is filled tomorrow.

Jamal Ferguson

Executive Assistant |Solar Energy Technologies Office

Redhorse Corporation | Contractor to the U.S. Department of Energy

Office of Energy Efficiency & Renewable Energy Tel: 202-287-1987 | Cell: (b) (6)

From: Jones-Albertus, Becca

Sent: Monday, September 10, 2018 6:10 PM

To: Ferguson, Jamal (CONTR) < Jamal. Ferguson@ee.doe.gov>

Subject: FY18 FOA follow up

Hi Jamal,

Could you find a half hour on Wednesday afternoon or tomorrow for Lenny, Garrett, Kyle, Charlie and myself on the topic above?

Thanks,

Becca

From:

Tinker, Lenny

Sent:

Tuesday, September 11, 2018 9:09 AM

To:

Jones-Albertus, Becca; Gay, Charlie; Nilsen, Garrett; Fricker, Kyle

Subject:

RE: FY18 FOA follow up

Attachments:

Selection Memo - FY18 SETO FOA 8-31 in response to EE-1 feedback_LT rev 9_11.docx

Hi Charlie, I've added tags into the titles of the PV projects for "Increase Energy Output", "New PV Materials", "Increase System Lifetime" and "LMI". If you need anything else for the briefing, please let me know.

Becca: (b) (5)

the projects

are already indicated as "WF" in the latest version of the EE-1 briefing doc.

-Lenny

From: Jones-Albertus, Becca

Sent: Tuesday, September 11, 2018 9:22 AM

To: Gay, Charlie < Charlie. Gay@EE.DOE. Gov>; Tinker, Lenny < Lenny. Tinker@ee. Doe. Gov>; Nilsen, Garrett

<Garrett.Nllsen@ee.doe.gov>; Fricker, Kyle <Kyle.Fricker@EE.DOE.Gov>

Subject: RE: FY18 FOA follow up

Hi all,

This is a time for us to talk through strategy options for briefing Topics 3 and 4. Lenny, could you bring (b) (5) that we can use in the discussion?

Becca

----Original Appointment----

From: Gay, Charlie

Sent: Tuesday, September 11, 2018 8:58 AM

To: Gay, Charlie; Jones-Albertus, Becca; Tinker, Lenny; Nilsen, Garrett; Fricker, Kyle

Subject: FY18 FOA follow up

When: Tuesday, September 11, 2018 4:30 PM-5:00 PM (UTC-05:00) Eastern Time (US & Canada).

Where: Charlie's office

AUGUST 31, 2018

REVIEW OF SETO FY2018 FOA AWARD SELECTIONS

BACKGROUND: Through the MA-facilitated process, the Department approved a \$105.5 million Funding Opportunity Announcement (FOA, DE-FOA-0001840). The FOA included the following high level topic areas and is available on <u>EERE Exchange</u>.

Concentrating Solar Power Research and Development (CSP)
Photovoltaics Research and Development (PV)
Improving and Expanding the Solar Industry through Workforce Initiatives (WF)

787 concept papers were received, 416 proposals evaluated and 55 projects with a value of approximately \$56,577,969 million (DOE Share) selected. With recipient cost share of \$15,595,264 million, the total award amount is \$72,173,233 million.

SELECTIONS:

Note: 32 of 55 selectees¹ are new to SETO's portfolio; of the selectees who are not new, 6 do not currently have an award with SETO; applications are ordered by merit review score within each FOA Topic Area.

| Topic | Selections (bold indicates 1st time selected as prime; italics for no current award but previous awardee) | Summary of Approach/Objective | DOE Share (\$M) | Merit Review Score (1-8) | Policy Factor |
|---------------------|---|-------------------------------|-----------------------|-----------------------------------|------------------|
| CSP | (b) (5) | | | 7.67 | N |
| CSP | | | | 7.16 | N |
| CSP | | | | 7.11 | N |
| CSP | | | | 7.11 | N |
| CSP CSP CSP CSP CSP | | | | 7.11 | N |
| CSP | | | | 6.88 | Ŋ |
| CSP | | | | 6.78 | N |
| CSP | | | | 6.78 | Ŋ |

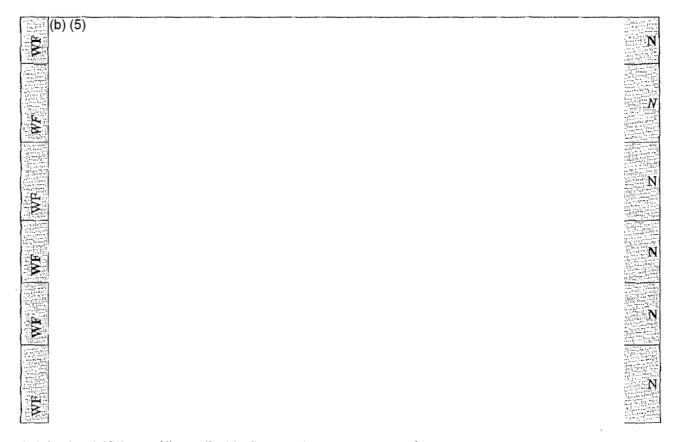
¹ Selectee is the Primary Investigator (PI) for large institutions like Universities and large companies. Selectee is the organization for smaller nonprofits and businesses.

Page 1 of 10

| | (b) (5) | |
|-----------------|---------|---|
| CSP | 6.78 | N |
| CSP | 6.50 | N |
| | | |
| CSP | 6.50 | N |
| CSP CSP CSP | 6.45 | Ŋ |
| CSP | 644 | N |
| a , | 6,33 | N |
| S | | |
| သ | 6.11 | N |
| CSP CSF CSP | 6.11 | N |
| | 7,56 | N |
| PV | | |
| M | 7.56 | N |
| | 7.44 | N |
| M | | |
| | | |
| PV | 7.25 | N |
| | | |
| | 7 72 | N |
| | 7.22 | 1 |
| PV | | |
| | 7.10 | N |
| PV | | |
| | | |
| | 7.01 | N |
| PV | | |

| | (b) (5) | I | |
|------|---------|------|---|
| ΡV | | 7.01 | N |
| PV] | | 7.00 | N |
| ΡV | | 6.92 | N |
| ρV | | 6.89 | N |
| ΡV | | 6.89 | N |
| PV | | 6.89 | N |
| ΡV | | 6.88 | N |
| PV | | 6.78 | N |
| ΡV | | 6.77 | N |
| ρV | | 6.67 | N |
| ÞΛ | | 6.67 | N |
| ΡV | | 6.67 | N |
| PV | | 6,56 | N |

| Г | (b) (5) | | |
|------|---------|------|----------|
| ΡV | | 6.50 | N |
| ΡV | | 6.55 | N |
| PV | _ | 6.56 | N |
| ΡV | | 6.56 | N |
| ρv | _ | 6.50 | N |
| PV | | 6.50 | N |
| ΡV | _ | 6.50 | N |
| PV | | 6.50 | N |
| ΡV | _ | 6.50 | N |
| PV | | 6.45 | N |
| Δd | | 6.45 | N |
| Δx | | 6.34 | Υ,# |
| W.F. | | 7.11 | Z |



^{*} Selection fulfills specific applicable Congressional language: "The Committee also encourages the Department to find ways to expand access to solar energy to residences and businesses in low income communities."

^{**} Selection fulfills specific applicable Congressional language: "Within available funds, the Committee recommends \$1,000,000 for the Secretary's contribution to the joint Solar Ready Vets program within the Department of Defense as a way to train America's veterans to fill this growing skill need."

See Appendix A for the selection criteria and policy factors

See Appendix B for the Release Strategy. SETO is working with Comms and Public Affairs to issue a press release on (b) (5) to announce the selections.

See Appendix C for the Description of Office of Electricity (OE) Coordination during the FOA process.

Appendix A: Technical Evaluation Criteria:

Applications were evaluated against the merit review criteria shown below. All sub-criteria are of equal weight.

Criterion 1: Innovation and Impact (Weight: 34%) – How innovative and impactful is the project, assuming the stated outcomes can be achieved as written?

- Innovative -Extent to which the proposed project or solution is well beyond the state of the art.
- Impactful Extent to which the proposed project or solution, if successful, impacts the core goals outlined in the FOA in Topics and Areas of Interest (FOA Section #...). Extent to which the claimed impacts are feasible and justified.
- **Differentiated** Extent of differentiation with respect to existing commercial products, solutions, programs, or technologies.
- Scalable Likelihood the proposed solution, if successful, could be scaled to have a broader impact or be maintained at a sufficiently large scale after project completion.

Criterion 2: Quality and Feasibility of the Project Plan (Weight: 33%) – Are the stated goals of the project SMART (Specific, Measurable, Aggressive (but achievable), Relevant, and Timely), are they likely to be accomplished within the scope of this project, and does the proposal show a clear path for growth and improvement over time?

- Measurable Extent to which the applicant shows a clear understanding of the importance of SMART verifiable milestones and proposes milestones that demonstrate clear progress, are aggressive but achievable, and are quantitative.
- Risks mitigated Extent to which the applicant understands and discusses the project risks
 and challenges the proposed work will face, and the soundness of the strategies and methods
 that will be used to mitigate risks.
- Validated Level of validation (letters of support/interest, partners, customer trials, data from prior work, report references, technical baselines established, etc.).
- Reasonable assumptions Reasonableness of the assumptions used to form the execution strategy, (e.g., market size, customer participation, costs, throughput at full scale, speed of proposed scale-up or adoption, and mode of funding).
- Reasonable budget The reasonableness of the overall funding requested to achieve the proposed project and objectives.

Criterion 3: Capability and Resources of the Applicant/Project Team (Weight: 33%) – Is the team well qualified and positioned to successfully complete this project?

- Capable The training, capabilities, and experience of the assembled team to address all aspects of the proposed work with a high probability of success. Extent to which this team (including proposed Subrecipients) will be able to achieve the final results on time and to specification.
- Participation The level of participation by project participants as evidenced by letter(s) of
 commitment and how well they are integrated into the Team Qualifications and Resources
 section of the Technical Volume.
- Commitment Extent to which the final team required to complete this project is fully assembled and committed to the project (e.g., Are there any key members that are "to be hired at a later date")
- Past Performance Extent to which the assembled team has shown success in the past. DOE encourages new entrants and new ideas, but past successes and/or failures will be noted.
- Access Extent to which the team has access to facilities, equipment, people, expertise, data, knowledge, and any other resources required to complete the proposed project.

Policy Factors

The following program policy factors may have been considered when making selections:

- 1. The degree to which the proposed project exhibits technological or programmatic diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA.
- 2. The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives.
- 3. The level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers.
- 4. Based on the commitments made in the U.S. Manufacturing Plan, the degree to which the proposed project is likely to lead to increased employment and manufacturing in the United States or provide other economic benefit to U.S. taxpayers.
- 5. The degree to which the proposed project will accelerate transformational technological, financial, or workforce advances in areas that industry by itself is not likely to undertake because of technical or financial uncertainty.
- 6. The degree to which the proposed project collectively represents diverse types and sizes of applicant organizations.
- 7. The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications).
- 8. The degree to which the proposed project avoids duplication/overlap with other publicly or privately funded work.
- 9. The degree to which the proposed project supports complementary efforts or projects, which, when taken together, will best achieve the research goals and objectives.
- 10. The degree to which the proposed project enables new and expanding market segments. Whether the project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer.

Appendix B: Release Strategy Schedule

Note: the press release will be delayed after notifications are sent so that the release can be timed with a major industry event, Solar Power International. Final announcement materials can be provided closer to the actual announcement date.

(b)(5)

All draft communication materials provided to the front office Front office reviews communication materials
Front office provides comments on communication materials
Final communication materials provided to Public Affairs
Initial sensitivity check
3-day notifications are sent
Final sensitivity check
Selections Notifications Sent (no public announcement)
2nd courtesy sensitivity check
Press release issued at Solar Power International

Appendix C: OE Coordination

Stage: FOA Drafting (October 2017-March 2018)

- November: SETO Director, Dr.Gay, met with Bill Parks (OE) for a high level discussion on the SETO FOA topics
- November-December: SETO staff brief OE staff and leadership (DAS Katie Jereza) on Topic 1 as well as Sub-topic 4.2, and Sub-topic 1.1 is identified as needing further joint development
- December March: SETO staff worked closely with Gil Bindewald (OE) to reframe and finalize Sub-topic 1.1, and final language for sub-topics 1.1-1.3 is shared with OE DASes Katie Jereza and Michael Pesin before the FOA release in April. SETO staff work with Caitlin Callaghan (OE) on language for Sub-topic 4.2

Stage: FOA Merit Review (May - August 2018)

 Dan Ton (OE) contributed concept paper reviews. Band width constraints prevented OE from participating in the full application review.

Stage: Federal Consensus Panel meetings (August 2018)

 Three OE staff (Gil Bindewald, Stephen Walls and Chris Irwin) participated in the twoday Federal Consensus Panel meetings that made recommendations to the Selection Official for Sub-topics 1.1-1.3

Stage: Negotiations (September – November 2018) (b) (5)

Background: EERE and MA Approvals Summary SETO FY18 FOA (Key Dates)

- November 2017: PDAS Daniel Simmons approval of FOA Requirements Document
- January 2018: MA approval of FOA Requirements Document
- April 2018: EERE Chief of Staff (Alex Fitzsimmons) approval of SETO FOA document for release
- April 2018: SETO FOA released

From:

Jones-Albertus, Becca

Sent:

Tuesday, September 11, 2018 12:33 PM

To:

Tinker, Lenny

Subject:

RE: Offsite on Wednesday

Thanks. I did send that to him anc(b) (5)

From: Tinker, Lenny

Sent: Tuesday, September 11, 2018 2:12 PM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: Offsite on Wednesday

(b) (5)

Just wanted revisit the attached plan.

-Lenny

From: Jones-Albertus, Becca

Sent: Monday, September 10, 2018 6:11 PM To: Tinker, Lenny < Lenny. Tinker@ee. Doe. Gov>

Subject: RE: Offsite on Wednesday

Can you remind me more about (b) (5)

Thanks, Becca

From: Tinker, Lenny < Lenny. Tinker@ee, Doe. Gov>

Date: Monday, Sep 10, 2018, 12:02 PM

To: DL-EERE-4S PMsolar < DL-EERE-4SPMSolar@ee.doc.gov>

Subject: RE: Offsite on Wednesday

A couple things that came to mind are below.

-Lenny

- (b) (5)
- _
- 200
- •
- •
- .

From: Jones-Albertus, Becca

Sent: Sunday, September 09, 2018 9:23 PM

To: DL-EERE-4S PMsolar < DL-EERE-4SPMSolar@ee.doe.gov>

Subject: Offsite on Wednesday

Hi all,

Please send me any agenda items you'd like to have for Wednesday's offsite. We can discuss further at PM meeting tomorrow.

Thanks, Becca

From:

Gay, Charlie

Sent:

Tuesday, September 11, 2018 2:51 PM

To:

Jones-Albertus, Becca

Subject:

RE: a few notes

Thanks Becca - (b) (5), (b) (6)

I spent 30 minutes in highly constructive

conversation on the phone with her this morning to strategize -

So, I'll connect with Robert and see what he is pursuing.... there's nobody at NREL who has had to deal with the gaming that developing countries have mastered.

- Charlie 202-287-1987

----Original Message----From: Jones-Albertus, Becca

Sent: Tuesday, September 11, 2018 4:28 PM To: Gay, Charlie < Charlie.Gay@EE.DOE.Gov> Subject: a few notes

adbject, a few floor

Hi Charlie,

Two things to check in with you about:

1.(b) (5)
I told them they should not proceed with any actions for a FOA release until they get your approval as the SETO Director and selection official. (b) (5)

2. Elaine has engaged Robert Margolis, Monisha and several others at the labs to support the HUD efforts related to Puerto Rico. They are committing several weeks of time to this in the next month. Are you aware/supportive of this? I don't have the latest information on what Elaine is working on, so just wanted to check in to ensure this larger effort was in line with your vision.

Becca

From:

Jones-Albertus, Becca

Sent:

Tuesday, September 11, 2018 6:45 PM

To:

Yuan, Guohui; Gay, Charlie

Subject:

RE: A couple of updates in FY17 FOA

Thanks, Guohui. Let's chat more tomorrow morning.

Becca

From: Yuan, Guohui < Guohui, Yuan@EE, Doe. Goy>

Date: Tuesday, Sep 11, 2018, 8:08 PM

To: Jones-Albertus, Becca < Becca Jones-Albertus@ee.doe.gov >, Gay, Charlie < Charlie Gay@EE.DOE.Gov >

Subject: A couple of updates in FY17 FOA

Hi Charlie and Becca,

Here are a couple of quick updates on the FY18 Topic 1 FOA reissue.

1. I told Jeremey on a separate thread (with Patty and Clay) that we will confirm on (b) (5) morning so that Charlie gets a chance to weigh in.

tomorrow

2, (b) (5)

(b)(5)

We can chat in more detail during the PM off-site tomorrow.

Guohui

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|---|----|----|--|
| - | CI | | |

Wednesday, September 12, 2018 11:58 AM

To:

Shimek, Jaime

Cc:

Forcier, Bridget; Johns, Christopher; Hanson, Chistopher; Meyer_Seligman; Yates,

Perry; Hendrickson, Randall

Subject:

RE: Solar FOA Change

Jaime,

Unless already awarded, not sure the specific issue of concern.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 1:42 PM To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Hanson, Chistopher <Christopher_Hanson@appro.senate.gov>; Meyer_Seligman <Meyer_Seligman@appro.senate.gov>; Yates,

Perry <Perry.Yates@mail.house.gov>
Subject: [EXTERNAL] RE: Solar FOA Change

Hi John and Team CFO,

We continue to hear that EERE FOAs are being pulled down and changed. These FOAs seem to range from internally approved and not yet made public to FOAs that have been made public and applications have been submitted, with career staff selecting awardees (though negotiations with those awardees do not seem to have been started).

We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

Please let me know what dates and times Ms. Tripodi and EERE are available next week.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>; Johns, Christopher. Johns@Hq.Doe.Gov>; Hanson,

Chistopher < Christopher Hanson@appro.senate.gov > Subject: RE: Solar FOA Change

Jaime,

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

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Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angie <Angie.Giancarlo@mail.house.gov>; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >; Giancarlo, Angie < Angie. Giancarlo@mail.house.gov >; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >; Yates, Perry

<<u>Perry.Yates@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov >; Yates, Perry < Perry. Yates@mail.house.gov >; Shimek, Jaime

<laime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.

From:

Hendrickson, Randall

Sent:

Wednesday, September 12, 2018 12:00 PM

To:

Vonglis, John G.

Subject:

RE: Solar FOA Change

Hmmm....

Randall Hendrickson
Department of Energy, Deputy Chief Financial Officer
randall.hendrickson@hq.doe.gov
Office 202-586-4171
Cell (b) (6)

From: Vonglis, John G.

Sent: Wednesday, September 12, 2018 2:53 PM

To: Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov>

Subject: FW: Solar FOA Change

FYI

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 1:42 PM To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < <u>Bridget.Forcier@hq.doe.gov</u>>; Johns, Christopher < <u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher < <u>Christopher Hanson@appro.senate.gov</u>>; Weyer_Seligman < <u>Meyer Seligman@appro.senate.gov</u>>; Yates,

Perry < Perry. Yates@mail.house.gov > Subject: [EXTERNAL] RE: Solar FOA Change

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We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

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Subject: RE: Solar FOA Change

Jaime,

Will look into it.

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Mindy Renfro
External Coordination
CFO Office of Budget
US Department of Energy
202-586-3260

This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.

From:

Forcier, Bridget

Sent:

Wednesday, September 12, 2018 12:07 PM

To:

Vonglis, John G.

Subject:

RE: Solar FOA Change

Sounds ok. (b) (5)

Bridget Forcier
Associate Director for External Coordination
The Office of Budget
Chief Financial Officer
U.S. Department of Energy
(202) 586-0176

From: Vonglis, John G.

Sent: Wednesday, September 12, 2018 3:05 PM
To: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Hanson, Chistopher <Christopher_Hanson@appro.senate.gov>; Meyer_Seligman <Meyer_Seligman@appro.senate.gov>; Yates, Perry <Perry.Yates@mail.house.gov>; Hendrickson, Randall <Randall.Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

Jaime,

Not sure where this is coming from. Kindly provide specifics so that we can address appropriately.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

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Cc: Forcier, Bridget \(\) Bridget \(\) Bridget \(\) Forcier \(\) Anson, Christopher \(\) Christopher \(\) Johns \(\) Hanson,

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Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angle <Angle.Giancarlo@mail.house.gov>; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

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Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.

From:

Forcier, Bridget

Sent:

Wednesday, September 12, 2018 12:15 PM

To:

Vonglis, John G.

Subject:

FW: Solar FOA Change

Importance:

High

Let me know if you want us to reach out to EERE to schedule this briefing.

Bridget Forcier
Associate Director for External Coordination
The Office of Budget
Chief Financial Officer
U.S. Department of Energy
(202) 586-0176

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Subject: RE: Solar FOA Change

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John

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| *************************************** |

From:

Jones-Albertus, Becca

Sent:

Wednesday, September 12, 2018 1:18 PM

To:

Gav. Charlie

Subject:

RE: Priorities for Steve Chalk

Will do!

From: Gay, Charlie < Charlie.Gay@EE.DOE,Gov>

Date: Wednesday, Sep 12, 2018, 2:58 PM

To: Jones-Albertus, Becca < Becca Jones-Albertus@ee.doe.gov>

Subject: RE; Priorities for Steve Chalk

Thanks Becca - can you assemble a single summary slide for items 1, 4 and 5, please?

Something like: what's needed (i.e. headline), brief background, sensitivities, and recommended path forward or next steps

The meeting is scheduled for 1:00 p.m. - 2:00 p.m.

Charlie
 202-287-1987

----Original Message----From: Jones-Albertus, Becca

Sent: Wednesday, September 12, 2018 2:40 PM To: Gay, Charlie < Charlie. Gay@EE.DOE.Gov>

Subject: Priorities for Steve Chalk

Hi Charlie,

Here are my current thoughts on priorities for discussion with Steve Chalk, for your Thursday meeting:

- 1. (b) (5)
- 2.
- 3.
- 4.
- 5.

Becca

From:

Forcier, Bridget

Sent:

Wednesday, September 12, 2018 4:14 PM

To:

Vonglis, John G.

Subject:

RE: [EXTERNAL] RE: Solar FOA Change

Ok.

Bridget Forcier
Associate Director for External Coordination
The Office of Budget
Chief Financial Officer
U.S. Department of Energy
(202) 586-0176

From: Vonglis, John G.

Sent: Wednesday, September 12, 2018 6:03 PM **To:** Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Cc: Whitaker, Patreece <Patreece.Whitaker@Hq.Doe.Gov>

Subject: FW: [EXTERNAL] RE: Solar FOA Change

Please see me tomorrow

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Date: Wednesday, Sep 12, 2018, 3:35 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>Subject: [EXTERNAL] RE: Solar FOA Change

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Subject: RE: Solar FOA Change

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| IOW, I'm trying to get to the core concern. We can chat if you prefer. | |
|---|---------|
| Best, | |
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Wednesday, September 12, 2018 4:36 PM

To: Cc: Forcier, Bridget Whitaker, Patreece

Subject:

RE: [EXTERNAL] RE: Solar FOA Change

No worries, Bridget.

I should be free in 10m, but if you're ready to leave, please do.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

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Cc: Whitaker, Patreece < Patreece. Whitaker@Hq.Doe.Gov>Subject: RE: [EXTERNAL] RE: Solar FOA Change

John,

I forgot to tell you (b) (6)

10:00 am. I am in the office now if you want to call.

in the office by

Bridget Forcier

Associate Director for External Coordination

The Office of Budget Chief Financial Officer U.S. Department of Energy

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To: Shimek, Jaime < <u>Jaime.Shimek@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget < <a href="mailto:Bridget.Bridget

Perry < Perry . Yates@mail.house.gov >; Hendrickson, Randall < Randall.Hendrickson@Hq.Doe.Gov >

Subject: RE: Solar FOA Change

Jaime,

Not sure where this is coming from. Kindly provide specifics so that we can address appropriately.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 1:42 PM **To:** Vonglis, John G. < <u>John.Vonglis@hq.doe.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov; Johns, Christopher < Christopher Hanson@appro.senate.gov; Weyer_Seligman < Meyer_Seligman@appro.senate.gov; Yates,

Perry < Perry. Yates@mail.house.gov > Subject: [EXTERNAL] RE: Solar FOA Change

Hi John and Team CFO,

We continue to hear that EERE FOAs are being pulled down and changed. These FOAs seem to range from internally approved and not yet made public to FOAs that have been made public and applications have been submitted, with career staff selecting awardees (though negotiations with those awardees do not seem to have been started).

We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

Please let me know what dates and times Ms. Tripodi and EERE are available next week.

Thanks, Jaime

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Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: RE: Solar FOA Change

Jaime,

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

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Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >, Johns, Christopher < Christopher.Johns@Hq.Doe.Gov >, Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here – which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the preaward negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angie Angie.Giancarlo@mail.house.gov; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

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Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime <Jaime.Shimek@mail.house.gov>; Giancarlo, Angie <Angie.Giancarlo@mail.house.gov>; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov >

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angle < Angle.Giancarlo@mail.house.gov >; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov>; Yates, Perry < Perry. Yates@mail.house.gov>; Shimek, Jaime

<Jaime, Shimek@mail, house, gov>

Cc: Forcier, Bridget < Bridget.Forcier@hg.doe.gov >

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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| **************** |
| This message does not originate from a known Department of Energy email system. |
| Use caution if this message contains attachments, links or requests for information. |
| ************************* |
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From:

Pezzullo, Leslie

Sent:

Thursday, September 13, 2018 1:27 PM

To:

Davis, Caitlin J. (CONTR)

Subject:

RE: CoS Tag-Up

Thank you for your help!!!

From: "Davis, Caitlin J. (CONTR)" < Caitlin. Davis@EE. DOE. Gov>

Sent: Sep 13, 2018 4:02 PM

To: "Pezzullo, Leslie" <Leslie.Pezzullo@ee.doe.gov>; "Fitzsimmons, Alexander"

<Alexander.Fitzsimmons@ee.doe.gov>

Cc: "Jayne, Kevin A." <Kevin.Jayne@ee.doe.gov>

Subject: RE: CoS Tag-Up

Hi Leslie,

Today's tag-up is starting at 4:05pm. Please call 202-586-4359.

Thanks, Caitlin

----Original Message-----From: Pezzullo, Leslie

Sent: Thursday, September 13, 2018 3:58 PM

To: Fitzsimmons, Alexander < Alexander. Fitzsimmons@ee.doe.gov>

Cc: Davis, Caitlin J. (CONTR) < Caitlin. Davis@EE.DOE.Gov>

Subject: CoS Tag-Up

Alex,

I was hoping to get out of the off-site in time to attend the meeting, but it looks like we are going to run over. Is there a number I could call into to hear any items you have for us today?

The only thing I wanted to bring to your attention is an eWorkflow package that you should have received today. It's our revised response to a letter of support sent to EE/Charlie Gay from Representative Chuck Fleischmann on an application to the SETO Mega-FOA under topic 1. The response has been revised to be consistent with the NOI that went out.

Best, Leslie

Leslie Pezzullo | U.S. Department of Energy | O: 202.586.1514 | M(b) (6)

| leslie.pezzullo@ee.doe.gov

From:

Gay, Charlie

Sent:

Friday, September 14, 2018 11:15 AM

To:

Bobo, Diana

Cc:

Buck, Michael; Carabajal, Stephanie; Passarelli, Derek; Yuan, Guohui; Jones-Albertus,

Becca; Goldstone, Michael

Subject:

RE: New SI FOA: Advanced Solar Systems Integration Technologies

Hí Diana:

Thank youl

I hereby acknowledge receipt of the FRD DE-FOA-0001987 and have had a brief opportunity to provide initial comments to Steve and Derek on themes that will ultimately require additional refinements such as schedule, technology and collaborative context details to be refined with input from OE and CESER. As such, I hereby authorize Guohui Yuan to approve Patty Clark taking the next step.

- Charlie

202-287-1987

----Original Message----

From: Bobo, Diana

Sent: Friday, September 14, 2018 1:11 PM To: Gay, Charlie < Charlie. Gay@EE.DOE.Gov>

Cc: Buck, Michael <Michael, Buck@ee, doe, gov>; Carabajal, Stephanie <Stephanie, Carabajal@ee. Doe. Gov>; Passarelli,

Derek < Derek. Passarelli@ee.doe.gov>

Subject: RE: New SI FOA: Advanced Solar Systems Integration Technologies

Hi Charlie,

(b)(5)

In order to publish the FOA, your review and

approval is required on the FRD. Attached is a slightly modified version that reflects correct numbering. We also need a STRIPES requisition. I believe Patty Clark started the process, but she is waiting on approval from you and Guohui.

Please let me know if you have any edits or comments on the FRD.

Thank you,

Diana

----Original Message----

From: Bobo, Diana

Sent: Thursday, September 13, 2018 2:31 PM

To: Gay, Charlie < Charlie. Gay@EE. DOE. Gov>; Yuan, Guohui < Guohui. Yuan@EE. Doe. Gov>

Cc: Buck, Michael < Michael Buck@ee.doe.gov>; Carabajal, Stephanie < Stephanie. Carabajal@ee.Doe.Gov>; Passarelli,

Derek < Derek. Passarelli@ee.doe.gov>

Subject: New SI FOA: Advanced Solar Systems Integration Technologies

Hi Charlie and Guohui,

Please find attached the drafts of the new SI FOA, FRD, and MA Cover Sheet. The information included in the documents is based on (b) (5)

. Glen Drysdale is currently reviewing the documents and will provide input on the IP information.

(b) (5) please let us know if you would like to discuss.

Please review the documents and

Thank you,
Diana R. Bobo
Contracting Officer, Team Lead
Financial Assistance Office, Solar Program
Golden Field Office
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

From: Murley, Susanna (CONTR) Sent: Monday, September 17, 2018 11:30 AM To: Fricker, Kyle; Nilsen, Garrett Cc: Bristol, Jennifer (CONTR) RE: Minneapolis Microgrid project? Subject: Taking the rest of the PMs off the thread. Yes, I would defer to Diana to see if there's a standard response here. Susanna Murley Strategic Support Team Lead The Building People, LLC | U.S. Department of Energy Contractor supporting the Solar Energy Technologies Office Office of Energy Efficiency and Renewable Energy Office: 202.287.1637 | Cell: (b) (6) Fram: Fricker, Kyle Sent: Monday, September 17, 2018 2:26 PM To: Ulrich, Elaine <Elaine. Ulrich@ee. Doe. Gov>; Murley, Susanna (CONTR) <Susanna. Murley@EE. DOE. Gov>; Nilsen, Garrett <Garrett.Nilsen@ee.doe.gov>; DL-EERE-4S PMsolar <DL-EERE-4SPMSolar@ee.doe.gov> Cc: Bristol, Jennifer (CONTR) < Jennifer. Bristol@EE.doe.gov> Subject: RE: Minneapolis Microgrid project? Sorry for my delayed response. (b) (5) Thanks, Kyle From: Ulrich, Elalne Sent: Monday, September 17, 2018 1:04 PM To: Murley, Susanna (CONTR) <Susanna, Murley@EE.DOE, Gov>; Nilsen, Garrett <Garrett, Nilsen, @ee.doe, gov>; DL-EERE-4S PMsolar < DL-EERE-4SPMSolar@ee.doe.gov> Cc: Bristol, Jennifer (CONTR) < Jennifer.Bristol@EE.doe.gov>; Fricker, Kyle < Kyle.Fricker@EE.DOE.Gov> Subject: RE: Minneapolis Microgrid project? I met these folks at the RMI eLab, so they have an existing project in MN, (b) (5) (b) (5)

E

From: Murley, Susanna (CONTR)

Sent: Monday, September 17, 2018 12:36 PM

To: Nilsen, Garrett < Garrett.Nilsen@ee.doe.gov >; DL-EERE-4S PMsolar < DL-EERE-4S PMsolar@ee.doe.gov >

She should be aware that the topic has been cancelled,

(b) (5)

Susanna Murley

Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202.287.1637 | Cell. (b) (6)

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Sent: Monday, September 17, 2018 12:33 PM

To: Murley, Susanna (CONTR) < Susanna.Murley@EE.DOE.Gov>; DL-EERE-4S PMsolar < DL-EERE-4SPMSolar@ee.doe.gov>

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Cc: Bristol, Jennifer (CONTR) < Jennifer. Bristol@EE. doe, gov >; Fricker, Kyle < Kyle. Fricker@EE. DOE. Gov >

Subject: RE: Minneapolis Microgrid project?

This was an application to Topic 1 (b) (5)

(cc'ing Kyle).

(b) (5)

From: Murley, Susanna (CONTR)

Sent: Monday, September 17, 2018 12:30 PM

To: DL-EERE-4S PMsolar < <u>DL-EERE-4SPMSolar@ee.doe.gov</u>>
Cc: Bristol, Jennifer (CONTR) < <u>Jennifer.Bristol@EE.doe.gov</u>>

Subject: Minneapolis Microgrid project?

Hi PMs --

Did anyone encourage/discourage a project in Minneapolis on microgrids with Ellen Anderson, director of the Energy Transition Lab at the University of Minnesota?

https://energynews.us/2018/09/17/midwest/solar-entrepreneur-aims-to-bring-jobs-training-to-north-minneapolis/

(b)(5)

Best,

Susanna

Susanna Murley

Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202.287.1637 | Cell. (b) (6)

| Rodriguez, Susan (CONTR) | | | |
|----------------------------|--|-----------|--|
| From: | Gay, Charlie | | |
| Sent: | Monday, September 17, 2018 11:33 AM | | |
| To: Cc: | Yuan, Guohui Jones-Albertus, Becca | | |
| Subject: | RE: FOA 1987 | | |
| Thanks Guohui i | | | |
| - Charlie 202-287-1987 | | | |
| From: Yuan, Guohui | enthing the granded to the expectation for a new place of the expectation of material and expectations and expectation of the e | 4000 · *; | |
| Sent: Monday, Septemb | | | |
| To: Gay, Charlie < Charlie | | | |
| Subject: RE: FOA 1987 | <becca.jones-albertus@ee.doe.gov></becca.jones-albertus@ee.doe.gov> | | |
| urrow too again | | | |
| Hi Charlle, | | | |
| I compiled the commen | in the following two main buckets: | | |
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Guohui

From: Gay, Charlie

Sent: Monday, September 17, 2018 10:10 AM
To: Yuan, Guohui < Guohui. Yuan@EE. Doe. Gov>

Cc: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov>

Subject: FOA 1987

Hi Guohui:

I have a meeting with Steve at 3:45 to go over the FOA. Could you compile the comments for clarification / attention, please — as things stand today?

- Charlie 202-287-1987

From:

Forcier, Bridget

Sent:

Monday, September 17, 2018 11:59 AM

To:

Vonglis, John G. Everett, Jazmin

Cc: Subject:

Follow up on Scheduling Meeting with Four Corners on Applied Energy FOAs

Importance:

High

John,

Just following up on whether you had heard from S3 regarding the request by Jaime Shimek for a meeting with Acting A/S, Cathy Tripodi on the cancelling of FOAs due to change in scope after they have been announced and the program is close to award. Specifically, when will DOE be ready to provide the briefing and who will conduct the briefing. Let me know. Thanks,

Bridget Forcier
Associate Director for External Coordination
The Office of Budget
Chief Financial Officer
U.S. Department of Energy
(202) 586-0176

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 3:09 PM To: Vonglis, John G. <John.Vonglis@hq.doe.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Hanson, Chistopher <Christopher_Hanson@appro.senate.gov>; Meyer_Seligman <Meyer_Seligman@appro.senate.gov>; Yates, Perry <Perry.Yates@mail.house.gov>; Hendrickson, Randall <Randail.Hendrickson@Hq.Doe.Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

Importance: High

The specifics for the last-mentioned FOA are in the email chain below. I understand the other FOA was a Wind FOA on offshore wind but I do not have additional specifics.

What concerns us is this seems to be an ongoing issue. Hence the request for the briefing. Looking forward to getting it set up.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Wednesday, September 12, 2018 3:05 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget < <u>Bridget.Forcier@ha.doe.gov</u>>; Johns, Christopher < <u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher < <u>Christopher_Hanson@appro.senate.gov</u>>; Meyer_Seligman < <u>Meyer_Seligman@appro.senate.gov</u>>; Yates,

Perry < Perry. Yates@mail.house.gov>; Hendrickson, Randall < Randall.Hendrickson@Hq.Doe.Gov>

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Cc: Forcier, Bridget Bridget Bridget Bridget Bridget <a href="mailto:Springer-Johns@Hg.Do

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: RE: Solar FOA Change

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John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

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Jaime

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To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angie <Angie.Giancarlo@mail.house.gov>; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

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Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime Jaime.Shimek@mail.house.gov; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

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Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

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Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov>; Yates, Perry < Perry. Yates@mail.house.gov>; Shimek, Jaime

<Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

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I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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| Use caution if this message contains attachments, links or requests for information. |
| *************************************** |
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Rodriguez, Susan (CONTR)

From:

Jones-Albertus, Becca

Sent:

Monday, September 17, 2018 1:46 PM

To:

Nilsen, Garrett; Murley, Susanna (CONTR); DL-EERE-45 PMsolar

Cc:

Bristol, Jennifer (CONTR); Fricker, Kyle

Subject:

RE: Minneapolis Microgrid project?

(b)(5)

(b)(5)

Becca

From: Nilsen, Garrett < Garrett. Nilsen@ee.doe.gov>

Date: Monday, Sep 17, 2018, 12:37 PM

To: Murley, Susanna (CONTR) <Susanna, Murley, @EE, DOE, Gov>, DL-EERE-4S PMsolar <DL-EERE-

4SPMSolar@ee.doe.gov>

Cc: Bristol, Jennifer (CONTR) < Jennifer Bristol @EE.doe.gov>, Fricker, Kyle < Kyle, Fricker @EE, DOE. Gov>

Subject: RE: Minneapolis Microgrid project?

OK.

Kyle and I can coordinate with Diana and clay to ensure we sent the appropriate response.

From: Murley, Susanna (CONTR)

Sent: Monday, September 17, 2018 12:36 PM

To: Nilsen, Garrett <Garrett.Nilsen@ee.doe.gov>; DL-EERE-4S PMsolar <DL-EERE-4SPMSolar@ee.doe.gov> Cc: Bristol, Jennifer (CONTR) < Jennifer.Bristol@EE.doe.gov>; Fricker, Kyle < Kyle.Fricker@EE.DOE.Gov>

Subject: RE: Minneapolis Microgrid project?

She should be aware that the topic has been cancelled,

(5)

Susanna Murley

Strategic Support Team Lead The Building People, LLC | U.S. Department of Energy Contractor supporting the Solar Energy Technologies Office Office of Energy Efficiency and Renewable Energy Office: 202,287,1637 | Cell: (b) (6)

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To: Murley, Susanna (CONTR) < Susanna, Murley@EE, DOE, Gov>; DL-EERE-4S PMsolar < DL-EERE-4SPMSolar@ee.doe.gov>

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Cc: Bristol, Jennifer (CONTR) < Jennifer. Bristol@EE.doe.gov>; Fricker, Kyle < Kyle. Fricker@EE.DOE.Gov>

Subject: RE: Minneapolis Microgrid project?

This was an application to Topic 1 (b) (5)

(cc'ing Kyle).

(b)(5)

From: Murley, Susanna (CONTR)

Sent: Monday, September 17, 2018 12:30 PM

To: DL-EERE-4S PMsolar < <u>DL-EERE-4SPMSolar@ee.doe.gov</u>>
Cc: Bristol, Jennifer (CONTR) < <u>Jennifer.Bristol@EE.doe.gov</u>>

Subject: Minneapolis Microgrid project?

Hi PMs -

Did anyone encourage/discourage a project in Minneapolis on microgrids with Ellen Anderson, director of the Energy Transition Lab at the University of Minnesota?

https://energynews.us/2018/09/17/midwest/solar-entrepreneur-aims-to-bring-jobs-training-to-north-minneapolis/

(b) (5)

Best,

Susanna

Susanna Murley

Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202.287.1637 | Cell: (b) (6)

Rodriguez, Susan (CONTR)

| From: Sent: To: Cc: Subject: | Vonglis, John G. Monday, September 17, 2018 2:11 PM Seligman, Meyer (Appropriations);Shimek, Jaime Forcier, Bridget;Johns, Christopher;Hanson, Chistopher;Yates, Perry;Hendrickson, Randall RE: Solar FOA Change |
|---|--|
| Meyer, | |
| I just late last week spoke w/Jaim | ne on this and U/S Menezes from Athens, as well as upon his return Fri eve. |
| When please can we speak? | |
| Thanks, | |
| John | |
| John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171 | |
| Sent: Monday, September 17, 20 To: Vonglis, John G. < John. Vongli Cc: Forcier, Bridget < Bridget. Forci | is@hq.doe.gov>; Shimek, Jaime <jaime.shimek@mail.house.gov> cier@hq.doe.gov>; Johns, Christopher <christopher.johns@hq.doe.gov>; Hanson, n@appro.senate.gov>; Yates, Perry <perry.yates@mail.house.gov>; Hendrickson, Hq.Doe.Gov></perry.yates@mail.house.gov></christopher.johns@hq.doe.gov></jaime.shimek@mail.house.gov> |
| John, | |
| We would appreciate some avail decisions that led to the changes | able dates and times to discuss the internal process regarding EERE FOAs and the |
| Thanks, | |
| Meyer | |

Meyer Seligman

Professional Staff Member
Senate Committee on Appropriations
Subcommittee on Energy and Water Development
Meyer Seligman@appro.senate.gov

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>
Sent: Wednesday, September 12, 2018 3:16 PM
To: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget < <u>Bridget.Forcier@hq.doe.gov</u>>; Johns, Christopher < <u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson,

Christopher (Appropriations) < Christopher (Appropriations) Christopher Hanson@appro.senate.gov Seligman, Meyer (Appropriations)

< Meyer Seligman@appro.senate.gov>; Yates, Perry < Perry.Yates@mail.house.gov>; Hendrickson, Randall

<Randall.Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

Again, just for my understanding – esp if need to convey to my ldshp: changes are not within the purview of that Office?

IOW, I'm trying to get to the core concern. We can chat if you prefer.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 3:09 PM **To:** Vonglis, John G. < <u>John.Vonglis@hq.doe.gov</u>>

Cc: Forcier, Bridget < Bridget < <a href="mailto:Bridget.Bridget

Perry <Perry.Yates@mail.house.gov>; Hendrickson, Randall <Randall.Hendrickson@Hq.Doe.Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

The specifics for the last-mentioned FOA are in the email chain below. I understand the other FOA was a Wind FOA on offshore wind but I do not have additional specifics.

What concerns us is this seems to be an ongoing issue. Hence the request for the briefing. Looking forward to getting it set up.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Wednesday, September 12, 2018 3:05 PM **To:** Shimek, Jaime < Jaime. Shimek@mail.house.gov>

 $\label{lem:cc:} \textbf{Cc:} \ Forcier, Bridget < \underline{Bridget.Forcier@hq.doe.gov}; Johns, Christopher < \underline{Christopher.Johns@Hq.Doe.Gov}; Hanson, Chistopher < \underline{Christopher} \ \underline{Hanson@appro.senate.gov}; Meyer_Seligman < \underline{Meyer} \ \underline{Seligman@appro.senate.gov}; Yates, Bridget < \underline{Meyer} \ \underline{Meyer} \ \underline{Seligman@appro.senate.gov}; All Seligman < \underline{Meyer} \ \underline{$

Perry < Perry. Yates@mail.house.gov>; Hendrickson, Randall < Randall.Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

Jaime,

Not sure where this is coming from. Kindly provide specifics so that we can address appropriately.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 1:42 PM **To:** Vonglis, John G. < <u>John.Vonglis@hq.doe.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov; Johns, Christopher < Christopher Christopher Hanson@appro.senate.gov; Weyer Seligman < Meyer_Seligman@appro.senate.gov; Yates,

Perry < Perry. Yates@mail.house.gov > Subject: [EXTERNAL] RE: Solar FOA Change

Hi John and Team CFO,

We continue to hear that EERE FOAs are being pulled down and changed. These FOAs seem to range from internally approved and not yet made public to FOAs that have been made public and applications have been submitted, with career staff selecting awardees (though negotiations with those awardees do not seem to have been started).

We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

Please let me know what dates and times Ms. Tripodi and EERE are available next week.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: RE: Solar FOA Change

Jaime,

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget <Bridget, Forcier@hq.doe.gov>, Johns, Christopher, Schristopher, Johns @Hq.Doe.Gov>, Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here – which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the preaward negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov>; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >; Giancarlo, Angie < Angie. Giancarlo@mail.house.gov >; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >; Yates, Perry

< Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov >; Yates, Perry < Perry. Yates@mail.house.gov >; Shimek, Jaime

<Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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|---|----|
| Use caution if this message contains attachments, links or requests for information | n. |

Rodriguez, Susan (CONTR)

| From: | Jones-Albertus, Becca |
|--|---|
| Sent: | Monday, September 17, 2018 3:03 PM |
| To: | Gay, Charlie, Yuan, Guohui |
| Subject: | RE: FOA 1987 |
| This sounds like ver as well. Two question | y good progress, Charlie. It is nice to have confirmation on the author of the new language |
| _ (b) (5) (b) (5) | |
| - (b) (5) | |
| Also, is it correct that | at you are looking for (b) (5) |
| | W |
| Becca | |
| | |
| | |
| - 1.015 PH to a comparability of the second distribution in the subdistance of the second distribution in the second distribution | |
| Date: Monday, Sep 17, To: Yuan, Guohui < Gu | ohui.Yuan@EE.Doe.Gov> cca <becca_jones-albertus@ec.doe.gov></becca_jones-albertus@ec.doe.gov> |
| | |
| P.S.: | (b) (5) |
| - Charlie 202-287-1987 | |
| From: Gay, Charlie Sent: Monday, Septen | nber 17, 2018 5:44 PM ohui.Yuan@EE.Doe.Gov> |
| | cca <becca.jones-albertus@ee.doe.gov></becca.jones-albertus@ee.doe.gov> |
| HI Guohui: | 7 |
| l made progress with S | Steve and Alex this afternoon (b) (5) (b) |
| | (5) |
| What I need by 9:00 a | .m. tomorrow for a meeting with Steve (b) (5) |

(b)(5)

The total federal dollars would be \$46million as originally detailed. Labs could not be prime.

Please let me know what you think and what ideas you might like to explore.

Charlie 202-287-1987

From: Yuan, Guohul

Sent: Monday, September 17, 2018 12:21 PM To: Gay, Charlie < Charlie.Gay@EE.DOE.Gov>

Cc: Jones-Albertus, Becca < Becca, Jones-Albertus@ee.doe.gov>

Subject: RE: FOA 1987

Hi Charlie,

I compiled the comments in the following two main buckets:

Logistics

o (b) (5)

0

0

0

0

Technical content

o (b) (5)

0

0

(b)(5)

0

O

O

Guohui

From: Gay, Charlie

Sent: Monday, September 17, 2018 10:10 AM To: Yuan, Guohui < Guohui. Yuan@EE. Doe. Gov>

Cc: Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov>

Subject: FOA 1987

Hl Guohui:

I have a meeting with Steve at 3:45 to go over the FOA. Could you compile the comments for clarification / attention, please — as things stand today?

Charlle 202-287-1987

Rodriguez, Susan (CONTR)

| Marine Company of the | |
|--|--|
| From: | Yuan, Guohui |
| Sent: | Monday, September 17, 2018 6:26 PM |
| To: | Jones-Albertus, Becca;Gay, Charlie |
| Subject: | RE: FOA 1987 |
| Attachments: | 1987 FOA topics - revised.docx; Resilient Distribution System 2017-06-20-ch-V2-GY |
| \$4653.0.024 535454.54564.7533.5 | wpp v4.docx |
| ¥. | A F Production of the Control of the |
| Here are the draft ideas. | . Basically, let's run 2 topics as suggested by Charlie. |
| Total federal dollars: \$46 | CAA |
| Topic 1.1: (b) (5) plus 20 | |
| 4.00 | 0% cost share |
| Labs could not be prime | |
| Edds could not be printe | • |
| 900 I | r situational awareness in strategic locations associated with critical infrastructure (see |
| attached) | |
| | suggest use the GMLC RDS as a baseline; it focuses on resilience, has been jointly developed |
| | +X, includes cyber security, also emphasizes field validation (e.g. demonstration). The |
| institutional support an | d valuation analysis seem very important, (b) (5) |
| | |
| Sounds like a plan? | |
| 205 901 575 | |
| Guohui | |
| gramma (Mariana) a gramma a maria maria and a maria a maria and a maria a maria a maria a maria a maria a mari | Expression demonstration of amount for contracting the contraction of the expression of the procession contraction of |
| From: Jones-Albertus, B | |
| Sent: Monday, Septemb | |
| | nui.Yuan@EE.Doe.Gov>; Gay, Charlie <charlie.gay@ee.doe.gov></charlie.gay@ee.doe.gov> |
| Subject: RE: FOA 1987 | |
| Hi Guohui, | |
| (,, -45,141) | |
| Charlie certainly has the | authoritative word here, but here are my opinions as a starting point. |
| (b) (5) | |
| H | |
| <u> </u> | |
| <u> </u> | |
| | |
| Last, (b) (5) | |
| 26,362 26 106 855 | |
| | |
| Becca | |
| | |
| | |
| The second of the second | and the second second and the second |

From: Yuan, Guohui Sent: Monday, September 17, 2018 6:03 PM

| | To: Gay, Charlie < <u>Charlie.Gay@EE.DOE.Gov</u> > Cc: Jones-Albertus, Becca < <u>Becca.Jones-Albertus@ee.doe.gov</u> > Subject: RE: FOA 1987 |
|---|--|
| | Hi Charlie, |
| | I like where this is going |
| | I can certainly write up some key points tonight. But I need some clarifications on the general guidance on: |
| | A) (b) (5) We want to respect that. |
| | B)(b)(5) |
| | C)(b) (5) (b) (5) |
| | D) (b) (5) Has that changed? |
| | Any clarification on these will help me write the supporting language. |
| | Guohui |
| | From: Gay, Charlie < Charlie, Gay @EE DOE. Gov> Date: Monday, Sep 17, 2018, 5:44 PM To: Yuan, Guohui < Guohui Yuan @EE. Doe. Gov> Cc: Jones-Albertus, Becca < Becca. Jones-Albertus @ee. doe. gov> Subject: RE: FOA 1987 Hi Guohui: |
| | I made progress with Steve and Alex this afternoon (b) (5) |
| | What I need by 9:00 a.m. tomorrow for a meeting with Steve (b) (5) |
| b |) (5) |
| | |
| | |
| | |

The total federal dollars would be \$46million as originally detailed.

Please let me know what you think and what ideas you might like to explore.

Labs could not be prime.

- Charlle 202-287-1987

| From: Yuan, Guohui Sent: Monday, September 17, 2018 12:21 PM To: Gay, Charlie < Charlie. Gay@EE.DOE. Gov> Cc: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.go Subject: RE: FOA 1987 | <u>∨</u> : |
|---|------------|
| Hi Charlie, | |
| I compiled the comments in the following two main buckets | : |
| • Logistics o (b) (5) | |
| 0 | |
| o | |
| . 0 | |
| 0 | |
| Technical content _o (b) (5) | |
| o | |
| 0 | |
| 0 | |
| o | |
| | |

Guohui

0

From: Gay, Charlie

Sent: Monday, September 17, 2018 10:10 AM
To: Yuan, Guohui < Guohui, Yuan@EE, Doe, Gov>

Cc: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov>

Subject: FOA 1987

Hi Guohui:

I have a meeting with Steve at 3:45 to go over the FOA. Could you compile the comments for clarification / attention, please — as things stand today?

- Charlie 202-287-1987 Total federal dollars: \$46M

Topic 1.1: (b) (5) plus 20% cost share Topic 1.2: plus 50% cost share

Labs could not be prime.

Topic 1.1: R&D for solar situational awareness in strategic locations associated with critical infrastructure

Objective

The increasing deployment of utility-scale and distributed solar PV systems brings about serious challenges to electric power grid planning and operation. Solar situation awareness in strategic locations associated with critical infrastructure is required so that planners and operators can "see" solar generation throughout the system and at all times, analyze their contributions and impacts, and make control decisions for reliable, resilient, and secure grid operations. Ideally solar situation awareness should be performed automatically without manual interventions by system operators.

Solar PV systems often communicate to utilities, aggregators, and other grid operators over the public internet. As a result, the electric power system cyber-attack surface has significantly expanded. At the same time, solar energy systems are getting equipped with a range of grid-support functions that - if controlled or programmed improperly - present a risk of power system disturbances. As the experience and sophistication of cyber adversaries grow, so too must the US power system's defenses, situational awareness, and response and recovery strategies.

Therefore, research, development, and field validation are needed for solar situational awareness technologies and solutions to support planning and operation with high PV penetration. Primary focus areas will include integrating innovative sensor technologies, secure and robust communication, advanced data analytics (including machine learning) and detection of cyber-intrusion techniques with PV systems.

Approach

The technical approach will focus on developing and integrating sensing and communication technologies with utility-scale and distributed solar PV (and other DER technologies) to support planning and operation of power systems. Primary research areas include sensor technologies, secure and robust communications, advanced data analytics, data visualization that not only can be easily included in PV system design and integration, but also can enable real time autonomous and local-decision making to address solar generation and load variability without the need for massive data communication, especially in strategic locations associated with critical infrastructure. Solar situation awareness solutions must standardized interfaces for interoperability. Advanced data analytics techniques, including machine learning algorithms, should be used to complement ground-truth measurements.

On the cyber security front, the research will leverage established industrial control and power system cyber security prior work to implement state-of-the-art cyber security best practices. The research should address the potential cyber security vulnerability in PV and DERs and develop and commercialize innovative technologies to harden PV systems, protect networks from penetration, detect intrusions, and effectively respond to cyber security breaches.

<u>Outcome</u>

Research in this area is expected to result in new software and hardware solutions and data analytical methods for solar situation awareness that enable and enhance system operators and/or automated devices to make correct planning and operation decisions.

Areas not of Interest

- Solar irradiance forecasting models or irradiance database
- Generic cyber security technologies (or solutions) that are not integrated with solar PV
- Generic sensor and measurement technologies (or solutions) that are not integrated with solar
 PV
- · Generic communication technologies (or solutions) that are not integrated with solar PV

.

Topic 1.2: <u>validation</u> that (can also include R&D but) is mainly intended to demonstrate that proactive resiliency solutions based on solar perform as modeled on the grid system. This topic can also include tech transfer but would generally have 50% cost share.

Please see the attached 2017 GMLC Resilience Distribution System Lab Call. I think it is perfectly aligned with the guidance here. Also, I think the FOA will nicely complement the lab call since the lead organizations here are industry.

The only question is whether we (b) (5) to see a) (b) (5) b) (b) (5)

OE, so the answer to a (b) (5) interested.

We should discuss with OE The RDS lab call was jointly developed with so OE may be

Resilient Distribution Systems

An FY17 Project Call for the Grid Modernization Laboratory Consortium

A. Description/Background

Overview

The U.S. Department of Energy (DOE) has developed this Grid Modernization Laboratory Consortium (GMLC) Project Call as part of the Grid Modernization Initiative (GMI). This Project Call aims to advance research of resilient distribution systems through rigorous field validations. In particular, the Call focuses on the integration of clean distributed energy resources (DERs) and emerging grid technologies at regional scale. The project results are expected to deliver credible information on technical and economic viability of the solutions as well as demonstrate viability to key stakeholders who are ultimately responsible for approving and investing in grid modernization activities. This FY17 GMLC Project Call builds on the momentum from the ongoing GMLC Foundational Activities of the FY16 GMLC Lab Call and continues research in the six technical areas laid out in the Grid Modernization Multi-Year Program Plan (MYPP). This FY17 GMLC Project Call is jointly developed and funded by the Office of Energy Efficiency and Renewable Energy (EERE) and the Office of Electricity Delivery and Energy Reliability (OE).

Objectives

This GMLC Project Call seeks to develop and validate innovative approaches to enhance the resilience of distribution systems (including microgrids) with high penetration of clean DERs. Technological advancements include control/coordination strategies, real-time system monitoring, robust communications infrastructure, grid planning and analytical platforms, and integration of multiple DER technologies.²

Grid modernization presents a complex bundle of technological, institutional and regulatory challenges. Thus, projects must include field validations that incorporate regionally appropriate solutions that verify the viability of distribution system design, validate architectural relationships and interoperability, quantify costs and benefits (i.e. characterize value proposition), ensure protection of system networks and data against cyber threats, and inform

¹ For the purpose of applications submitted under this Project Call, DER is defined as any controllable energy resource connected at the distribution-level. This can include generation, load, and/or energy storage. "Clean" characterizes the technology's role in reducing or eliminating pollution, with emphasis on energy efficiency and renewable energy technologies such as solar, wind, energy storage, building efficiency technologies, and electric vehicles.

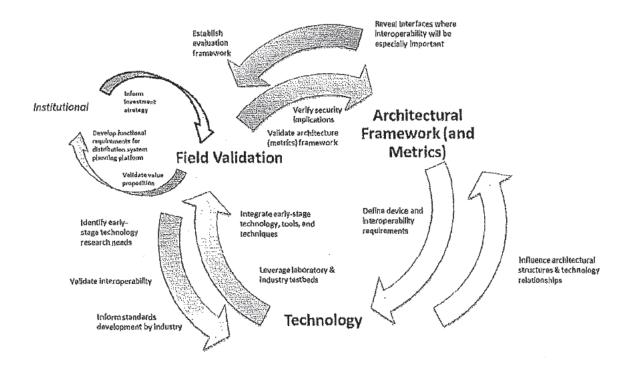
² These technologies are further defined in the Grid Modernization Multi-Year Program Plan (MYPP) as six key technical areas: a) Devices and Integrated Systems Testing, b) Sensing and Measurements, c) System Operations, Power Flow, and Control, d) Design and Planning Tools, e) Security and Resilience and f) Institutional Support.

functional requirements for distribution system planning platforms and regulatory decisionsupport tools.

B. Scope of Work

The core technologies, tools, and analyses from the six technical areas of the MYPP (and reflected in the Foundational Activities of the FY16 GMLC Lab Call) will integrate into Regional Field Validations designed to validate foundational principles (e.g. architecture; interoperability; integration testing; valuation; cybersecurity; sensing and measurement strategy), and accelerate the implementation of early-stage research to widespread deployment. This FY17 GMLC Project Call specifically focuses on the following concept:

Resilient distribution systems with high penetration of clean distributed energy
resources: areas of potential research application include, but are not limited to,
advances in real-time system monitoring; distributed control, including secure and
robust communications networks; modeling and simulation techniques; design and
planning tools; and coordination between the bulk system and intelligent, controllable
distribution-level assets, including multiple microgrids.



The proposed project must be of a scale large enough to validate the feasibility of DER deployment and grid infrastructure modernization requirements. Each project should describe at a minimum: the scale of the field validation; performance objectives of the field validation (grid attributes); the criteria and requirements used in selecting site location(s); the current baseline of clean DER deployment in the region; the potential for significantly expanded amounts of clean DER on the distribution systems; the data collection and evaluation plan; the metrics for success, and the measurements that will be made to confirm success; and plans to disseminate this information.

All equipment and components proposed as part of the field validation should be actual equipment operating in real-world conditions without a proxy or a simulator in place of the actual equipment.³ This is to ensure that the technology is implemented and tested under the most commonly occurring conditions and therefore provides a pathway to facilitate large-scale deployment.

Definition of Resilience

Resilience is defined as the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate physical and cyber attacks, accidents, or naturally occurring threats or incidents.⁴ Grid resilience focuses on the analysis and mitigation of the impacts to grid infrastructure resulting from infrequent yet large-consequence events. Project should use emerging resilience metrics being developed by the GMLC to measure the degree of enhancement in distribution system resilience. Other metrics can be proposed, but must be clearly defended.

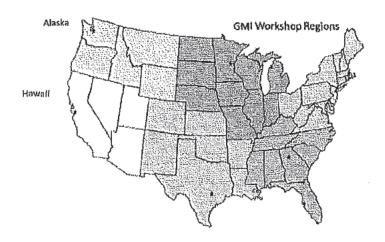
Regional Diversity

Regional factors such as geographical and/or jurisdictional boundaries, energy resource availability, electric network topologies, infrastructure interdependencies, institutional and/or market structures, climatic conditions, topography and/or environmental concerns, and public policy influence grid modernization and DER technology deployment. Proposed projects shall identify and discuss similar characteristic elements relevant for the proposed region, and how the project provides critical understanding related to the achievement of resilient distribution systems. Projects should also discuss potential relevance/extendibility of these insights to other regions.

Projects should reflect "regions" based on the GMLC Regional Workshops, as illustrated below. Other regional definitions can be proposed by the GMLC, but must be clearly defended.

³ Simulations could be part of the proposal supporting the larger demonstration.

⁴ Grid Modernization: Metrics Analysis (GMLC1.1), Version 2.1, May 2017



Regional Institutional Support

State policymakers, regulatory agencies, and regional planning organizations play a critical role in shaping both the direction and pace of grid modernization. As part of the proposed project, the team should work with state and/or local governments, regulators, and other planning organizations to help improve, as appropriate, institutional and/or regulatory decision processes. This could include, for example, development and/or enhancement of advanced grid planning and analytical tools (and related power system models) as a platform for more effective information exchange.

Interoperability

The project team shall describe their strategies, plans, and processes for establishing and maintaining interoperability, and the utilization of open standards wherever possible. The team shall consider interoperability within their solution (among devices and/or subsystems) and at the external interfaces with other utility and customer systems. The project team shall indicate where they have chosen to utilize proprietary standards.

Post award, project teams will be required to submit an Interoperability Plan, detailing how they propose to implement and maintain these aspects of their solution.

Cybersecurity Principles

Resilient distribution systems require accompanying advancements in cybersecurity technologies so that innovative grid architectures are designed from the earliest stages to survive a cyber-incident.

The novel, resilient distribution-level power system technologies and system integration approaches proposed in response to this call, will likely require equally novel cybersecurity technologies to survive a cyber-incident. The project team is encouraged to select and integrate

one or more emerging cybersecurity technologies that is currently being developed by either the public or private sectors, that has reached a stage of development making it ready to advance through rigorous field validation, and that is matched to the needs of the emerging grid technologies proposed for development in response to this call. The expected outcome is twofold. One, integrate a novel cybersecurity technology that will strengthen the cybersecurity of the novel distribution-level power system technologies being proposed. Two, provide a platform to further advance the novel cybersecurity technology toward the objective of achieving broad adoption throughout the energy sector at regional scale.

A clear technical discussion that supports the selection of the emerging cybersecurity technology proposed for rigorous field validation, specifically describing how the selected technology is well-suited to bring cyber-resilience to the proposed distribution-level emerging grid technology must be provided. Also, a technical discussion that makes clear how the selected cybersecurity technology advances the state-of-the-art for energy infrastructure cybersecurity beyond existing capabilities must be provided

The project team shall also describe methods that will be used to assess the cybersecurity effectiveness of novel emerging cybersecurity technology that may be integrated and advanced through this project, as described above, as well as any traditional cybersecurity measures identified as necessary.

Post award, project teams will be required to submit a Cybersecurity Plan, detailing how they propose to implement and maintain these aspects of their solution. This plan must describe their approach to establishing and maintaining cybersecurity throughout their solution both strategically and tactically, and at the interfaces to external components and systems, for both novel and traditional cybersecurity measures.

Data Management

The project team should describe the approach to collect, organize and present project data. Information may include the project scope, schedule, and summary result; system baseline data; the potential for significantly expanded amounts of clean DER on the distribution systems; use cases and functional requirements; lab testing and field validation data; standards related to DER and emerging grid technologies; cost and benefits; applicable legislation and regulation concerning DER and grid technology deployment; and lessons learned and best practices.

Testing and Validation

The project team should describe a testing approach to verify the effectiveness of the proposed technology in achieving the program objectives and technical performance targets. Testing should include real hardware and software in addition to computer simulations. Testing and validation should use real world measurement data or high-fidelity synthesized data with sufficient granularity and duration. It is strongly encouraged that the project team leverages the Test Network and Open Library developed under GMLC FY16 Foundation Activities.

Value Analysis

The project team should describe the potential benefits of the project's investments in grid modernization and DER technologies on a distribution system in the relevant region. Furthermore, the project team should work with the Institutional Support team on Value Analysis to ensure pre- and post-deployment cost/benefit analysis using actual data obtained from the field validation. It is strongly encouraged that the project team leverages the Valuation Framework and Metrics developed under GMLC FY16 Foundation Activities.

C. Project Team

Each project submitted to this GMLC Project Call must include at least two (2) National Laboratory partners, and be carried out in active cooperation and collaboration with an electric utility (e.g., investor owned utility; electric cooperative; public power) that owns and/or operates grid facilities; at least one supplier of energy delivery control systems or components; and at least one entity that provides cybersecurity services to the energy sector and that will perform a red-teaming cybersecurity assessment of the technology developed in the proposed project. An integrated team approach that includes members of utilities, industry product and service suppliers, end users, state and municipal governments, Regional Transmission Organization (RTOs), universities, and others is strongly encouraged. A red-teaming cybersecurity assessment of the technology developed in the proposed project should be anticipated.

D. Funding

DOE envisions awarding multiple projects under this GMLC Project Call. The maximum number of projects selected is anticipated to be approximately 5. The number of projects will depend on the quality of the proposed activities and the availability of funds. The estimated period of performance for each project will be three years, including data collection and analysis.

The DOE anticipates having \$25-30 M of Federal funding available for this GMLC Project Call, and selected projects would be expected to provide a minimum cost share of 20% of the total allowable costs. At least 25% of Federal funding MUST go to non-National Laboratory partner(s). The management fee for subcontracts should be limited to the lowest amount possible. The average award size is expected to be \$5-7M DOE funds.

E. Evaluation Criteria

DOE anticipates selecting projects using the following evaluation criteria which are listed in order of importance:

- Technical Merit and Innovation This criterion will evaluate the degree of merit and
 innovation of the proposed technologies and system integration approaches to viably
 address the stated objectives of the GMLC Project Call. This includes the degree to
 which the project incorporates outputs from the activities of the FY16 GMLC Lab Call to
 validate foundational principles (e.g. architecture; interoperability; integration testing;
 valuation; cybersecurity).
- Significance and Impact This criterion will evaluate the degree to which the proposed technologies and system integration approaches will impact the ability of the electric utility and the overall energy sector to realize a resilient distribution system with significantly expanded penetration levels of clean DER and emerging grid technologies as well as sustainable net benefits when deployed at scale. DOE will also evaluate the regional diversity of the projects and reserves the right to select projects for award that represent a diversity of geographic regions while not being detrimental to the overall objectives of the Call.
- Project Execution and Management Approach This criterion will evaluate the degree
 to which the proposed project is well-structured to achieve the best possible outcomes.
 This includes the adequacy and feasibility of the management approach to develop a
 substantive workable collaboration between the National Laboratories, distribution
 utility partners, and other project team members, as well as the degree to which the
 project team will broadly share data and disseminate findings within the utility
 community.
- Team and Resources This criterion will evaluate the degree to which the proposed team and resources are likely to achieve the best possible outcomes at the best value for the Government. This includes the adequacy of quality, availability, and appropriateness of facilities and equipment to accomplish the project objectives, as well as diversity and the level of commitment of the project team to adopt the proposed methodology and/or technology solution post-project.

Rodriguez, Susan (CONTR)

From:

Gay, Charlie

Sent:

Tuesday, September 18, 2018 4:28 AM Yuan, Guohui; Jones-Albertus, Becca

To: Subject:

RE: FOA 1987

Thank you Guohui and Becca for all the support -(b) (5)

- Charlie 202-287-1987

From: Yuan, Guohui

Sent: Monday, September 17, 2018 10:15 PM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>; Gay, Charlie <Charlie.Gay@EE.DOE.Gov>

Subject: RE: FOA 1987

I have two thoughts on that. (b) (5)

We will surely respect OE's opinion on this.

From: Jones-Albertus, Becca

Sent: Monday, September 17, 2018 10:10 PM

To: Yuan, Guohui < Guohui. Yuan@EE. Doe. Gov>; Gay, Charile < Charlie. Gay@EE. DOE. Gov>

Subject: RE: FOA 1987

Hi Guohui and Charlie,

Since RDS was jointly written and funded by OE, I don't know how they would respond to a solar-funded FOA on the topic. (b) (5)

Becca

From: Yuan, Guohui < Guohui, Yuan@EE.Doe.Gov>

Date: Monday, Sep 17, 2018, 9:26 PM

To: Jones-Albertus, Becca < Becca Jones-Albertus@ee.doe.gov>, Gay, Charlie < Charlie Gay@EE.DOE.Gov>

Subject: RE: FOA 1987

Here are the draft ideas. Basically, let's run 2 topics as suggested by Charlie.

Total federal dollars: \$46M

Topic 1.1: (b) (5) plus 20% cost share Topic 1.2: plus 50% cost share

Labs could not be prime,

Topic 1.1: <u>R&D</u> for solar situational awareness in strategic locations associated with critical infrastructure (see attached)

Topic 1.2: Validation – suggest use the GMLC RDS as a baseline; it focuses on resilience, has been jointly developed with OE, includes Solar +X, includes cyber security, also emphasizes field validation (e.g. demonstration). The institutional support and valuation analysis seem very important, (b) (5)

| Sounds like a plan? | |
|---|----------|
| Guohul | |
| From: Jones-Albertus, Becca Sent: Monday, September 17, 2018 7:55 PM To: Yuan, Guohui < Guohui. Yuan@EE. Doe. Gov >; Gay, Charlie < Charlie. Gay@EE. DOE. Gov > Subject: RE: FOA 1987 | |
| Hi Guohui, | |
| Charlie certainly has the authoritative word here, but here are my opinions as a starting point. (b) (5) | |
| Last, (b) (5) (b) (5) | |
| Becca | |
| From: Yuan, Guohui Sent: Monday, September 17, 2018 6:03 PM To: Gay, Charlie < Charlie. Gay@EE.DOE.Gov> Cc: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov> Subject: RE: FOA 1987 | . market |
| Hi Charlie, | |
| I like where this is going | |
| I can certainly write up some key points tonight, But I need some clarifications on the general guidance on: | |
| A) (b) (5) We want to respect that. | |
| B) (b) (5) | |
| C) (b) (5) | |

D) (b) (5)

Has that changed?

Any clarification on these will help me write the supporting language.

Guohui

From: Gay, Charlie < Charlie, Gay@EE, DOE, Gov>

Date: Monday, Sep 17, 2018, 5:44 PM

To: Yuan, Guohui < Guohui Yuan@EE.Doe.Gov>

Cc: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov>

Subject: RE: FOA 1987

Hi Guohui:

I made progress with Steve and Alex this afternoon (b) (5)

What I need by 9:00 a.m. tomorrow for a meeting with Steve (b) (5)

(b)(5)

The total federal dollars would be \$46million as originally detailed. Labs could not be prime.

Please let me know what you think and what ideas you might like to explore.

Charlie
 202-287-1987

From: Yuan, Guohui

Sent: Monday, September 17, 2018 12:21 PM To: Gay, Charlie < Charlie.Gay@EE.DOE.Gov>

Cc: Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov >

Subject: RE: FOA 1987

Hi Charlie,

I compiled the comments in the following two main buckets:

Logistics
 (b) (5)

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| Guohui | |
| From: Gay, | Charlie |
| Sent: Mond | ay, September 17, 2018 10:10 AM uohui < <u>Guohui.Yuan@EE.Doe.Gov</u> > |
| Cc: Jones-Al | bertus, Becca < <u>Becca.Jones-Albertus@ee.doe.gov</u> > |
| Subject: FO | A 1987 |
| Hi Guohul: | |
| | |

please – as things stand today?

- Charlie 202-287-1987

I have a meeting with Steve at 3:45 to go over the FOA. Could you compile the comments for clarification / attention,

4

Rodriguez, Susan (CONTR)

From:

Vonglis, John G.

Sent:

Tuesday, September 18, 2018 11:17 AM

To:

Beitler, Rachael

Subject:

FW: Solar FOA Change

One of many to follow ... :)

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Date: Monday, Sep 17, 2018, 5:10 PM

To: Seligman, Meyer (Appropriations) < Meyer Seligman@appro.senate.gov>, Shimek, Jaime

<Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget Springer-Johns@Hq.Doe,Gov, Hanson, Christopher Christopher-Johns@Hq.Doe,Gov, Hanson, Christopher Christopher-Hanson@appro.senate.gov, Yates, Perry Perry-Yates@mail.house.gov, Hendrickson, Randall

<Randall.Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

Meyer,

I just late last week spoke w/Jaime on this and U/S Menezes from Athens, as well as upon his return Fri eve.

When please can we speak?

Thanks,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Seligman, Meyer (Appropriations) [mailto:Meyer_Seligman@appro.senate.gov]

Sent: Monday, September 17, 2018 4:05 PM

To: Vonglis, John G. <John.Vonglis@hq.doe.gov>; Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Hanson, Chistopher <Christopher_Hanson@appro.senate.gov>; Yates, Perry <Perry.Yates@mail.house.gov>; Hendrickson,

Randall < Randall. Hendrickson@Hq. Doe. Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

John,

We would appreciate some available dates and times to discuss the internal process regarding EERE FOAs and the decisions that led to the changes.

Thanks,

Meyer

Meyer Seligman

Professional Staff Member
Senate Committee on Appropriations
Subcommittee on Energy and Water Development
Meyer Seligman@appro.senate.gov

From: Vonglis, John G. <<u>John.Vonglis@hq.doe.gov</u>> Sent: Wednesday, September 12, 2018 3:16 PM To: Shimek, Jaime <<u>Jaime.Shimek@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher < Christopher.Johns@Hq.Doe.Gov>; Hanson, Christopher (Appropriations) < Christopher Hanson@appro.senate.gov>; Seligman, Meyer (Appropriations)

<Meyer Seligman@appro.senate.gov>; Yates, Perry < Perry.Yates@mail.house.gov>; Hendrickson, Randall

<<u>Randall.Hendrickson@Hq.Doe.Gov</u>>

Subject: RE: Solar FOA Change

Again, just for my understanding – esp if need to convey to my ldshp: changes are not within the purview of that Office?

IOW, I'm trying to get to the core concern. We can chat if you prefer.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 3:09 PM To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov; Johns, Christopher < Christopher Christopher Hanson@appro.senate.gov; Weyer _Seligman < Meyer_Seligman@appro.senate.gov; Yates,

Perry < Perry . Yates@mail.house.gov >; Hendrickson, Randall < Randall.Hendrickson@Hq.Doe.Gov >

Subject: [EXTERNAL] RE: Solar FOA Change

The specifics for the last-mentioned FOA are in the email chain below. I understand the other FOA was a Wind FOA on offshore wind but I do not have additional specifics.

What concerns us is this seems to be an ongoing issue. Hence the request for the briefing. Looking forward to getting it set up.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Wednesday, September 12, 2018 3:05 PM **To:** Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bristopher < Christopher < Christopher Hanson@appro.senate.gov; Johns, Christopher < Christopher Hanson@appro.senate.gov; Johns, Christopher < Christopher Hanson@appro.senate.gov; Yates,

Perry <Perry.Yates@mail.house.gov>; Hendrickson, Randall <Randall.Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

Jaime,

Not sure where this is coming from. Kindly provide specifics so that we can address appropriately.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 1:42 PM To: Vonglis, John G. < <u>John.Vonglis@hq.doe.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov; Johns, Christopher < Christopher Christopher Hanson@appro.senate.gov; Weyer Seligman < Meyer Seligman@appro.senate.gov; Yates,

Perry < Perry. Yates@mail.house.gov > Subject: [EXTERNAL] RE: Solar FOA Change

Hi John and Team CFO,

We continue to hear that EERE FOAs are being pulled down and changed. These FOAs seem to range from internally approved and not yet made public to FOAs that have been made public and applications have been submitted, with career staff selecting awardees (though negotiations with those awardees do not seem to have been started).

We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

Please let me know what dates and times Ms. Tripodi and EERE are available next week.

Thanks, Jaime From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher < Christopher.Johns@Hq.Doe.Gov>; Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: RE: Solar FOA Change

Jaime,

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget Forcier@hq.doe.gov >, Johns, Christopher < Christopher.Johns@Hq.Doe.Gov >, Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here — which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the preaward negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' < renfroml@id.doe.gov; Giancarlo, Angie < Angie < Angie.Giancarlo@mail.house.gov; Yates, Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < <u>Jaime. Shimek@mail.house.gov</u>>; Giancarlo, Angie < <u>Angie. Giancarlo@mail.house.gov</u>>; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >; Yates, Perry

<<u>Perry.Yates@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov>; Yates, Perry < Perry. Yates@mail.house.gov>; Shimek, Jaime

<Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any guestions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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| This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information. |
| **************************** |

From:

Vonglis, John G.

Sent:

Tuesday, September 18, 2018 11:22 AM

To:

Beitler, Rachael

Subject:

FW: Solar FOA Change

As discussed

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Date: Wednesday, Sep 12, 2018, 3:15 PM

To: Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >, Johns, Christopher.Johns@Hq.Doe.Gov >, Hanson, Chistopher < Christopher Hanson@appro.senate.gov >, Meyer_Seligman < Meyer Seligman@appro.senate.gov >, Yates, Perry < Perry.Yates@mail.house.gov >, Hendrickson, Randall.Hendrickson@Hq.Doe.Gov >

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Perry < Perry < Perry.Yates@mail.house.gov>
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Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: RE: Solar FOA Change

Jaime,

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

From: Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov >, Johns, Christopher < Christopher. Johns@Hq.Doe.Gov >, Hanson,

Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John.

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here — which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the preaward negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' < renfroml@id.doe.gov; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov; Yates, Perry, Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >; Giancarlo, Angie < Angie. Giancarlo@mail.house.gov >; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >; Yates, Perry

<Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie <<u>Angie.Giancarlo@mail.house.gov</u>>; Yates, Perry <<u>Perry.Yates@mail.house.gov</u>>; Shimek, Jaime <<u>Jaime.Shimek@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@ha.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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| ***************************** | ***** |

From:

Tripodi, Cathy

Sent:

Tuesday, September 18, 2018 1:45 PM

To:

Menezes, Mark

Cc:

Varnasidis, Sophia; Webster, Allan

Subject:

RE: FOAus time

Hi Undersecretary Menezes:

I think Steve Chalk would be better to brief you. He is the DAS for Renewables and he is involved in the rewrite on Topic 1 Solar FOA. Unfortunately Catherine Jereza and I know the most because we met with EERE staff 3 times and asked them to explain what the words in the actual Solar FOA in Topic 1 meant. Staff was unable to explain and said they would issue and Amendment and never did and then proceed to score Topic 1 against direction. I am going by memory here but I think there were 3 other Topics (Topics 2,3 and 4) of the Solar FOA that went forward. Katie is in Idaho also and my hard copies of documents are in my office. That being said, I can go through my calendar and emails to come up with a timeline.

Chalk, Katie and I worked on Solar Topic 1 today so we are trying to ensure the taxpayers are provided a Solar FOA Topic 1 that makes sense and is competitive for all applicants.

(b)(5)

Thank you and sorry for the inconvenience.

All the best, Cathy T.

From: Menezes, Mark

Sent: Tuesday, September 18, 2018 4:28 PM To: Tripodi, Cathy < Cathy. Tripodi@hq.doe.gov>

Cc: Varnasidis, Sophia <Sophia.Varnasidis@hq.doe.gov>; Webster, Allan <Allan.Webster@hq.doe.gov>

Subject: FW: FOA

Cathy,

HEWD would like to talk to you about certain wind and solar FOAs to which "changes" were made. I know you're busy and I've offered to meet with HEWD. Would you mind if I asked Alex F to prepare brief me on the FOAs?

Mark W. Menezes Under Secretary of Energy

U.S. Department of Energy 1000 Independence Ave., SW Washington, DC 20585 Tel: (202) 586-8808



From: Vonglis, John G.

Sent: Tuesday, September 18, 2018 4:23 PM

To: Menezes, Mark < Mark. Menezes@hq.doe.gov>

Cc: Varnasidis, Sophia <Sophia.Varnasidis@hq.doe.gov>; Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Hendrickson, Randall <Randall.Hendrickson@Hg.Doe.Gov>; Johns, Christopher <Christopher.Johns@Hg.Doe.Gov>; Beitler, Rachael <Rachael.Beitler@hq.doe.gov>

Subject: RE: FOA

Mark,

Sure thing.

The focus of their concern is changes to FOAs - especially those previously selected. Wind and Solar are cases in point.

Believe they want to ascertain how Cathy came to the decisions she made.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Menezes, Mark < Mark.Menezes@hq.doe.gov>

Date: Tuesday, Sep 18, 2018, 4:16 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Varnasidis, Sophia <Sophia, Varnasidis@hq.doe.gov>, Forcier, Bridget <Bridget, Forcier@hq.doe.gov>, Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov >, Johns, Christopher < Christopher Johns@Hq.Doe.Gov >, Beitler, Rachael <Rachael.Beitler@hq.doe.gov>

Subject: RE: FOA

Thanks, John. We're checking on when she will return from the LOB meetings at INL. Did we get clarity on the question they want to ask?

Mark W. Menezes Under Secretary of Energy

U.S. Department of Energy 1000 Independence Ave., SW Washington, DC 20585



From: Vonglis, John G.

Sent: Tuesday, September 18, 2018 4:04 PM

To: Menezes, Mark < Mark. Menezes@hq.doe.gov>

Cc: Varnasidis, Sophia <Sophia.Varnasidis@hq.doe.gov>; Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Hendrickson, Randall <Randall, Hendrickson@Hq.Doe.Gov>; Johns, Christopher <Christopher.Johns@Hq.Doe.Gov>; Beitler, Rachael

<Rachael.Beitler@hq.doe.gov>

Subject: RE: FOA Importance: High

Mark,

Spoke again with HEWD (Majorly). They would very much like to be briefed by Cathy, soon as feasible.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Date: Monday, Sep 17, 2018, 5:08 PM

To: Menezes, Mark < Mark. Menezes@hq.doe.gov>

Cc: Varnasidis, Sophia <Sophia. Varnasidis@hq.doe.gov>, Forcier, Bridget <Bridget. Forcier@hq.doe.gov>

Subject: FOA

Mark,

Just following up from our call Fri regarding Subj, and Hill's continued interest. Please lmk when we can chat or, ideally, meet for a few minutes.

Thanks,

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy

Washington, D.C. 20585

202-586-4171

From:

Jones-Albertus, Becca

Sent:

Friday, September 21, 2018 7:22 AM

To:

Yuan, Guohui; Murley, Susanna (CONTR)

Cc:

Bristol, Jennifer (CONTR)

Subject:

RE: SI FOA Talking Points

Two comments - (b) (5)

Also, (b) (5)

Becca

From: Yuan, Guohui < Guohui Yuan@EE.Doe,Gov>

Date: Friday, Sep 21, 2018, 9:25 AM

To: Murley, Susanna (CONTR) <Susanna, Murley@EE.DOE.Goy>, Jones-Albertus, Becca <Becca, Jones-

Albertus@ee.doe.gov>

Cc: Bristol, Jennifer (CONTR) < Jennifer Bristol@EE.doe.gov>

Subject: RE: SI FOA Talking Points

I made some edits to the document.

My biggest issue is with (b) (5) and/or rephrase.

We need to highlight it and ask Alex to confirm

Guohul

From: Murley, Susanna (CONTR)

Sent: Thursday, September 20, 2018 9:24 PM

To: Yuan, Guohui <Guohui, Yuan@EE.Doe.Gov>; Jones-Albertus, Becca <Becca, Jones-Albertus@ee.doe.gov>

Cc: Bristol, Jennifer (CONTR) < Jennifer. Bristol@EE.doe.gov>

Subject: SI FOA Talking Points

Hi Guohui, Becca -

Please take a moment to review the attached talking points on the SI FOA. I need to submit it tomorrow morning, so your review ASAP would be wonderful.

https://eeredocman.ee.doe.gov/offices/EE-4S/Teams/Communications/2018%20-%20Comms%20Team%20Only/FOAs%20and%20Prizes/SETO%20FOA/SI%20Topic%20Relssue/SSI%20FOA%20Talking%20Points.docx?web=1 Thank you!

Susanna

Susanna Murley
Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202.287.1637 | Cell: (b) (6)

From:

Kanojia, Monica (CONTR)

Sent:

Friday, September 21, 2018 9:04 AM

To:

Murley, Susanna (CONTR); Bristol, Jennifer (CONTR)

Cc:

Horst, John; Vauss, Ebony; Jones-Albertus, Becca; DeCesaro, Jennifer; Kalmuk, Matthew

Subject:

RE: Monica Offline

Thanks for flagging, Susanna.

Best, Monica

----Original Message----

From: Murley, Susanna (CONTR)

Sent: Friday, September 21, 2018 12:02 PM

To: Bristol, Jennifer (CONTR) < Jennifer.Bristol@EE.doe.gov>; Kanojia, Monica (CONTR) < Monica.Kanojia@ee.doe.gov>

Cc: Horst, John <john.horst@ee.doe.gov>; Vauss, Ebony <Ebony.Vauss@ee.doe.gov>; Jones-Albertus, Becca

<Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: Monica Offline

Hi Monica -

I wanted to make sure that you noticed that we changed the wording of the topic 1 messaging. It is in the SSI FOA document, but here it is as well:

Topic 1 re-issue

- Systems integration funding was announced in April and is reissued here. This FOA better aligns that research with the administration priorities to increase the resilience and security of the nation's critical energy infrastructure.
- As a result, the funding amounts are higher—from a top boundary of \$4.5 million to \$10 million—and the office increases its attention to the transmission grid and critical infrastructure sites that can help ensure reliable energy delivery in the face of manmade or natural threats.
- Applicants that applied to the previous funding opportunity are encouraged to apply for funding in this FOA, if that research is relevant to the revised areas of interest.

And from the press release:

The funding opportunity announced today reissues the systems integration topic included in the office's FY2018 funding opportunity announcement. This new funding opportunity better aligns that research with the administration priorities to increase the resilience and security of the nation's critical energy infrastructure. These projects will develop tools that improve the situational awareness, of solar systems on both the distribution and transmission grid and validate resilient technologies and solutions in the field with industry and regional partners. Learn more about this funding opportunity HERE.

Best,

Susanna

----Original Message----From: Bristol, Jennifer (CONTR) Sent: Friday, September 21, 2018 10:46 AM

To: Murley, Susanna (CONTR) < Susanna. Murley@EE. DOE. Gov>; Kanojla, Monica (CONTR)

<Monica.Kanojia@ee.doe.gov>

Cc: Horst, John <john.horst@ee.doe.gov>; Vauss, Ebony <Ebony.Vauss@ee.doe.gov>; Jones-Albertus, Becca

<Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: Monica Offline

Monica,

I sent the SI FOA webpage on another email chain but for ease of review it's here too.

Thanks,

Jen

----Original Message----

From: Murley, Susanna (CONTR)

Sent: Friday, September 21, 2018 10:44 AM

To: Kanojia, Monica (CONTR) < Monica Kanojia@ee.doe.gov>; Bristol, Jennifer (CONTR) < Jennifer.Bristol@EE.doe.gov>

Cc: Horst, John <john.horst@ee.doe.gov>; Vauss, Ebony <Ebony.Vauss@ee.doe.gov>; Jones-Albertus, Becca

<Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: Monica Offline

Here are the FOA Talking points and the revised press release.

Thank youll

Susanna

Susanna Murley
Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202.287.1637 | Cell: (b) (6)

----Original Message----

From: Kanojia, Monica (CONTR)

Sent: Friday, September 21, 2018 9:44 AM

To: Murley, Susanna (CONTR) <Susanna.Murley@EE.DOE.Gov>; Bristol, Jennifer (CONTR) <Jennifer.Bristol@EE.doe.gov>

Cc: Horst, John <john.horst@ee.doe.gov>; Vauss, Ebony <Ebony.Vauss@ee.doe.gov>; Jones-Albertus, Becca

<Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: Monica Offline

I'm here for another couple hours and am meeting with the Front Office to review SETO items within the next 10 minutes or so.

----Original Message----

From: Murley, Susanna (CONTR)

Sent: Friday, September 21, 2018 9:41 AM

To: Kanojia, Monica (CONTR) < Monica.Kanojia@ee.doe.gov>; Bristol, Jennifer (CONTR) < Jennifer.Bristol@EE.doe.gov> Cc: Horst, John < John.horst@ee.doe.gov>; Vauss, Ebony < Ebony.Vauss@ee.doe.gov>; Jones-Albertus, Becca

<Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: Monica Offline

Hi Monica -

(b) (6) However, we have some important items that need to be reviewed by EERE FO today. Do you have anyone to (b) (6)

I have an updated press release, updated talking points for the selections, and talking points on the new FOA coming your way within the hour. IT IS CRITICAL that Alex review and approve messaging on why we are issuing a new FOA. Here is our draft language, which is currently under review by Becca:

Topic 1 retraction and re-issue

- Systems integration funding was announced, and then subsequently retracted, in the office's FY2018 funding opportunity announcement. This FOA better aligns that research with the administration priorities to increase the resilience and security of the nation's critical energy infrastructure.
- As a result, the funding amounts are higher—from a top boundary of \$4.5 million to \$10 million—and the office increases its attention to the transmission grid and critical infrastructure sites that can help ensure reliable energy delivery in the face of manmade or natural threats.
- Applicants that applied to the previous funding opportunity are encouraged to apply for funding in this FOA, if
 that research is relevant to the revised areas of interest.

Best,

Susanna

Susanna Murley
Strategic Support Team Lead
The Building People, LLC | U.S. Department of Energy
Contractor supporting the Solar Energy Technologies Office
Office of Energy Efficiency and Renewable Energy
Office: 202.287.1637 | Cell: (b) (6)

----Original Message----

From: Kanojia, Monica (CONTR)

Sent: Friday, September 21, 2018 9:15 AM

To: Murley, Susanna (CONTR) <Susanna.Murley@EE,DOE,Goy>; Bristol, Jennifer (CONTR) <Jennifer.Bristol@EE,doe.gov>

Cc: Horst, John < john.horst@ee.doe.gov>

Subject: Monica Offline

Hi Ladies,

(b) (6) after my meeting with FO this morning to review RP materials (11:30/12p). I know we have several outstanding SETO items and I will try to get you an answer on as many as I can. I just wanted to flag that (b) (5)

I don't have a DOE cell/remote access, but please call me on my personal cell should you need anything (b) (6)

Best, Monica

4

From:

Kalmuk, Matthew

Sent:

Friday, September 21, 2018 9:28 AM

To:

Gay, Charlie

Cc:

Jones-Albertus, Becca

Subject:

RE: Follow-up Solar FOA Briefing Materials for DAS-RP

Hi Charlie-

I just followed-up with Steve. He has everything he needs. No action needed on your end.

Have a good weekend!

Matt

From: Gay, Charlie

Sent: Friday, September 21, 2018 12:11 PM

To: Kalmuk, Matthew < Matthew. Kalmuk@ee.doe.gov>

Cc: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov> Subject: RE: Follow-up Solar FOA Briefing Materials for DAS-RP

Hi Matt:

There are several possible ways to read Steve's request, You may be able to clarify which of the following three options are being requested.

1. (b) (5)

2. (b) (5)

This is what Cathy

already has.

3. (b) (5)

which has Steve's suggested edits.

- Charlie

202-287-1987

From: Kalmuk, Matthew < Matthew. Kalmuk@ee.doc.gov>

Date: Friday, Sep 21, 2018, 10:38 AM

To: Gay, Charlie < Charlie. Gay@EE.DOE.Gov>

Cc: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov> Subject: Follow-up Solar FOA Briefing Materials for DAS-RP

Good Morning, Charlie-

My understanding is that there is an/are additional part(s) of the Solar FOA that needs to be briefed to Cathy. Steve has asked for the materials to review prior to meeting with Cathy next week (briefing memo/background materials). Apologies if you have provided this material to lan already. If you can resend it, I can be sure to get it to Steve in advance.

Thank youl

Matt Kalmuk

From:

Jones-Albertus, Becca

Sent:

Friday, September 21, 2018 11:00 AM

To:

Gay, Charlie; Murley, Susanna (CONTR); Bristol, Jennifer (CONTR)

Subject:

FOA materials for announcement

Hi Charlie and Susanna,

I just connected again with Matt Kalmuk and he said that Alex was very clear again today that the only announcement next week will be the prize. (b) (5)

So Susanna, let's not make any further requests for review and let these materials sit(b) (5)

Becca

From:

Jones-Albertus, Becca

Sent:

Monday, September 24, 2018 11:24 AM

To: Subject: Kalmuk, Matthew RE: quick question

Thanks.

From: Kalmuk, Matthew

Sent: Monday, September 24, 2018 2:22 PM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: quick question

Unfortunately, it doesn't look like it. My understanding is that Cathy is not taking meetings this week.

From: Jones-Albertus, Becca < Becca Jones-Albertus@ee.doe.gov>

Date: Monday, Sep 24, 2018, 1:54 PM

To: Kalmuk, Matthew \Matthew.Kalmuk@ee.doe.gov>

Subject: quick question

Hi Matt,

Does it look like Steve will have a chance to brief Cathy on the rest of our FY18 FOA selections today or tomorrow (since he is out the rest of the week)?

Thanks!

Becca

From: Sent:

Jones-Albertus, Becca

Monday, September 24, 2018 1:44 PM

To:

Bauer, Matthew (CONTR); Baylor, Meisha (CONTR); Boyd, Michele A. (CONTR); Bristol, Jennifer (CONTR); Canfield, Casey (FELLOW); Celik, Kemal (CONTR); Clark, Patricia (CONTR); Collins, Shamara (FELLOW); Dawson, Andrew (CONTR); Ebers, Anna (FELLOW); Ferguson, Jamal (CONTR); Huang, Susan (CONTR); Ihly, Rachelle (FELLOW); Irwin, Levi (CONTR); Jackson, Robin (CONTR); Jaishankar, Shubha (CONTR); Jones, Tiffany (CONTR); Kozinsky, Inna (CONTR); Krishnaswami, Hariharan (FELLOW): Lausten, Mark (CONTR); Machin, Sarah (CONTR); Marchetti, Emily (CONTR); Mees, Jacob (CONTR); Murley, Susanna (CONTR); Pecora, Emanuele F. (FELLOW); Prescod, Andru (CONTR); Qusaibaty, Ammar (CONTR); Rench-McCauley, Dave

(FELLOW); Shanks, Tariq (INTERN); Sheoran, Manay (CONTR); Truong, Nancy (CONTR); Washelesky, Dawn (CONTR); Williford, Melissa (CONTR); Zibulsky, Leah

(CONTR);DL-EERE-4S (OFC) Solar Energy Federal

Subject:

FY18 FOA status update

Dear team,

Since SETO team meeting is canceled for tomorrow (due to the large fraction of our team on travel, especially to SPI), I wanted to provide an update on the FY18 FOA.

On the original FY18 FOA, there are no changes since last week. Topic 2 and part of Topic 3 has been briefed to EE-1. Our DAS Steve Chalk will brief the rest of Topic 3 and Topic 4 to EE-1, and that briefing is expected to be next week.

Regarding the release of the updated "Topic 1" of the FOA, we had an opportunity to make some edits to the draft FOA language last week, and are awaiting EE-1 review. EE-1 is not available this week, and so we don't expect the new FOA to go out this week.

Thus, we will not have any FOA-related announcements at SPI this week. The focus at SPI will be the Prize.

Please feel free to stop by with any questions. (b) (6) in the office on Thursday.

but will be

Becca

From:

Vonglis, John G.

Sent:

Monday, September 24, 2018 3:17 PM

To:

Everett, Jazmin; Hendrickson, Randall

Cc:

Johns, Christopher; Beitler, Rachael; Whitaker, Patreece

Subject:

RE: [EXTERNAL] Re: RE: Solar FOA Change

Thank you

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Everett, Jazmin < Jazmin. Everett@hq.doe.gov>

Date: Monday, Sep 24, 2018, 6:14 PM

To: Vonglis, John G. <<u>John.Vonglis@hq.doe.gov</u>>, Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>
Co: Johns, Christopher <<u>Christopher.Johns@Hq.Doe.Gov</u>>, Beitler, Rachael <<u>Rachael.Beitler@hq.doe.gov</u>>, Whitaker,

Patreece <Patreece.Whitaker@Hq.Doe.Gov>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

It's moving, we are targeting this Friday, that's the best day for S-3. Trying to see if acting EE-1 is available that day. Have been engaging with Sophia Varnasidis on this along with EERE.

From: Vonglis, John G.

Sent: Monday, September 24, 2018 6:09 PM

To: Hendrickson, Randall <Randall.Hendrickson@Hq.Doe.Gov>

Cc: Johns, Christopher < Christopher. Johns@Hq. Doe. Gov>; Everett, Jazmin < Jazmin. Everett@hq. doe. gov>; Beitler,

Rachael <Rachael.Beitler@hq.doe.gov>; Whitaker, Patreece <Patreece.Whitaker@Hq.Doe.Gov>

Subject: FW: [EXTERNAL] Re: RE: Solar FOA Change

Importance: High

I assume this is moving

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Vonglis, John G.

Sent: Monday, September 24, 2018 6:07 PM

To: Menezes, Mark < Mark. Menezes@hq.doe.gov >; Varnasidis, Sophia < Sophia. Varnasidis@hq.doe.gov > Cc: Wilmot, Dan < Dan. Wilmot@hq.doe.gov >; Colgary, James < James. Colgary@hq.doe.gov >; McCormack, Brian < Brian. Mccormack@hq.doe.gov >; Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov >; Beitler, Rachael

<Rachael.Beitler@hq.doe.gov>

Subject: FW: [EXTERNAL] Re: RE: Solar FOA Change

FYI

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Monday, September 24, 2018 6:03 PM
To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Meyer_Seligman < Meyer_Seligman@appro.senate.gov>; Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher < Christopher < Christopher_Johns@Hq.Doe.Gov>; Hanson, Chistopher < Christopher_Hanson@appro.senate.gov>; Yates, Perry < Perry.Yates@mail.house.gov>; Hendrickson, Randall < Randall.Hendrickson@Hq.Doe.Gov>; Everett, Jazmin < Jazmin.Everett@hq.doe.gov>

Subject: [EXTERNAL] Re: RE: Solar FOA Change

Great news. We would like this meeting to happen this week. We look forward to seeing Cathy. As a reminder, we expect this meeting to occur and our questions to be answered before DOE takes any further action on the Solar FOA in question, as my original email at the end of this chain stated.

Thanks, Jaime

On Sep 24, 2018, at 12:32 PM, Vonglis, John G. John.Vonglis@hq.doe.gov wrote:

Meyer,

Uncanny. Our ExCo folks are coordinating as I write this.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Seligman, Meyer (Appropriations) < Meyer Seligman@appro.senate.gov>

Date: Monday, Sep 24, 2018, 12:28 PM

To: Vonglis, John G. < <u>John. Vonglis@hq.doe.gov</u>>, Shimek, Jaime < <u>Jaime.Shimek@mail.house.gov</u>> Cc: Forcier, Bridget < <u>Bridget.Forcier@hq.doe.gov</u>>, Johns, Christopher < <u>Christopher.Johns@Hq.Doe.Gov</u>>, Hanson, Chistopher < <u>Christopher Hanson@appro.senate.gov</u>>, Yates, Perry < <u>Perry.Yates@mail.house.gov</u>>,

Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

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Sent: Monday, September 17, 2018 4:05 PM

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Jaime.Shimek@mail.house.gov

Cc: Forcier, Bridget < Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher

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Meyer

Meyer Seligman

Professional Staff Member
Senate Committee on Appropriations
Subcommittee on Energy and Water Development
Meyer Seligman@appro.senate.gov

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Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

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<Christopher.Johns@Hg.Doe.Gov>; Hanson, Chistopher <Christopher Hanson@appro.senate.gov>

Subject: RE: Solar FOA Change

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John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

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Jaime

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Yates, Perry < Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

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Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >; Giancarlo, Angie

< Angie. Giancarlo@mail.house.gov>; Yates, Perry < Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

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Yates, Perry < Perry. Yates@mail.house.gov>

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Shimek, Jaime < <u>Jaime.Shimek@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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| *** | ********************** |

From:

Varnasidis, Sophia

Sent:

Monday, September 24, 2018 3:39 PM

To:

Tripodi, Cathy

Subject:

RE: [EXTERNAL] Re: RE: Solar FOA Change

Can you edit this explanation why so I can send to Vonglis

Katie is an engineer and has been helpful with the technical aspects of the FOA. Steve is the Acting DAS for Renewables, and is most intimately familiar with this FOA.

From: Tripodi, Cathy

Sent: Monday, September 24, 2018 6:37 PM

To: Varnasidis, Sophia <Sophia.Varnasidis@hq.doe.gov> Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

Can we have catie and chalk also go?

From: Varnasidis, Sophia

Sent: Monday, September 24, 2018 6:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>; Menezes, Mark < Mark. Menezes@hq.doe.gov>; Tripodi, Cathy. Tripodi@hq.doe.gov>

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Co: Wilmot Dan (Dan Wilmo)

Cc: Wilmot, Dan <<u>Dan.Wilmot@hq.doe.gov</u>>; Colgary, James <<u>James.Colgary@hq.doe.gov</u>>; McCormack, Brian <<u>Brian.Mccormack@hq.doe.gov</u>>; Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>; Beitler, Rachael <Rachael,Beitler@hq.doe.gov>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

+Cathy

John – I was emailing with EERE just a bit ago. S3 would like to participate along with Cathy. Also to clarify – is this a 4 corners meeting?

Sophia

From: Vonglis, John G.

Sent: Monday, September 24, 2018 6:07 PM

To: Menezes, Mark <<u>Mark.Menezes@hq.doe.gov</u>>; Varnasidis, Sophia <<u>Sophia.Varnasidis@hq.doe.gov</u>> Cc: Wilmot, Dan <<u>Dan.Wilmot@hq.doe.gov</u>>; Colgary, James <<u>James.Colgary@hq.doe.gov</u>>; McCormack, Brian <<u>Brian.Mccormack@hq.doe.gov</u>>; Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>; Beitler, Rachael

<Rachael.Beitler@hq.doe.gov>

Subject: FW: [EXTERNAL] Re: RE: Solar FOA Change

FYI

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Monday, September 24, 2018 6:03 PM
To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Meyer_Seligman < <u>Meyer_Seligman@appro.senate.gov</u>>; Forcier, Bridget < <u>Bridget.Forcier@hq.doe.gov</u>>; Johns, Christopher < <u>Christopher_Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher < <u>Christopher_Hanson@appro.senate.gov</u>>; Yates, Perry < <u>Perry.Yates@mail.house.gov</u>>; Hendrickson, Randall < <u>Randall.Hendrickson@Hq.Doe.Gov</u>>; Everett, Jazmin < Jazmin.Everett@hq.doe.gov>

Subject: [EXTERNAL] Re: RE: Solar FOA Change

Great news. We would like this meeting to happen this week. We look forward to seeing Cathy. As a reminder, we expect this meeting to occur and our questions to be answered before DOE takes any further action on the Solar FOA in question, as my original email at the end of this chain stated.

Thanks, Jaime

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Mindy Renfro

External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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From:

Tripodi, Cathy

Sent:

Monday, September 24, 2018 3:49 PM

To:

Varnasidis, Sophia

Subject:

RE: [EXTERNAL] Re: RE: Solar FOA Change

Sophia:

Do you think we can please include:

- 1) Katie Jereza, she is an engineer and has been helpful with the technical aspects of the Solar FOA, and
- 2) Steve Chalk, he is the EERE Acting DAS for Renewables, and is most intimately familiar with this Solar FOA.

Thank you for your kind consideration, Cathy T.

From: Varnasidis, Sophia

Sent: Monday, September 24, 2018 6:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>; Menezes, Mark < Mark. Menezes@hq.doe.gov>; Tripodi, Cathy

<Cathy.Tripodi@hq.doe.gov>

Cc: Wilmot, Dan < Dan.Wilmot@hq.doe.gov>; Colgary, James < James.Colgary@hq.doe.gov>; McCormack, Brian <Brian.Mccormack@hq.doe.gov>; Hendrickson, Randall <Randall.Hendrickson@Hq.Doe.Gov>; Beitler, Rachael <Rachael.Beitler@hq.doe.gov>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

+Cathy

John - I was emailing with EERE just a bit ago. S3 would like to participate along with Cathy. Also to clarify - is this a 4 corners meeting?

Sophia

From: Vonglis, John G.

Sent: Monday, September 24, 2018 6:07 PM

To: Menezes, Mark <Mark, Menezes@hq.doe.gov>; Varnasidis, Sophia <Sophia, Varnasidis@hq.doe.gov> Cc: Wilmot, Dan < Dan, Wilmot@hq, doe, gov>; Colgary, James < James. Colgary@hq, doe, gov>; McCormack, Brian <Brian, Mccormack@hq, doe, gov>; Hendrickson, Randall < Randall. Hendrickson@Hq, Doe, Gov>; Beitler, Rachael <Rachael.Beitler@hq.doe.gov>

Subject: FW: [EXTERNAL] Re: RE: Solar FOA Change

FYI

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Monday, September 24, 2018 6:03 PM
To: Vonglis, John G. < John Vonglis@hq.doe.gov >

Cc: Meyer_Seligman < Meyer Seligman@appro.senate.gov>; Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher < Christopher < Christopher Lohns@Hq.Doe.Gov>; Hanson, Chistopher < Christopher Hanson@appro.senate.gov>; Yates, Perry < Perry.Yates@mail.house.gov>; Hendrickson, Randall < Randall.Hendrickson@Hq.Doe.Gov>; Everett, Jazmin

<Jazmin.Everett@hq.doe.gov>

Subject: [EXTERNAL] Re: RE: Solar FOA Change

Great news. We would like this meeting to happen this week. We look forward to seeing Cathy. As a reminder, we expect this meeting to occur and our questions to be answered before DOE takes any further action on the Solar FOA in question, as my original email at the end of this chain stated.

Thanks, Jaime

On Sep 24, 2018, at 12:32 PM, Vonglis, John G. < John. Vonglis@hq.doe.gov > wrote:

Meyer,

Uncanny. Our ExCo folks are coordinating as I write this.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Seligman, Meyer (Appropriations) < Meyer Seligman@appro.senate.gov>

Date: Monday, Sep 24, 2018, 12:28 PM

To: Vonglis, John G. Johns G. Johns G. Johns G. Johns Ghristopher Shimek@mail.house.gov>, Hanson, Chistopher Ghristopher Johns@Hq.Doe.Gov>, Yates, Perry Perry Yates@mail.house.gov>, Hendrickson, Randall Randall.Hendrickson@Hq.Doe.Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

Following up on this again - we would like some dates as soon as possible.

From: Seligman, Meyer (Appropriations)

Sent: Monday, September 17, 2018 4:05 PM

To: 'Vonglis, John G.' < John. Vonglis@hq.doe.gov >; Shimek, Jaime < Jaime. Shimek@mail.house.gov >

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Christopher (Appropriations)

<<u>Christopher_Hanson@appro.senate.gov</u>>; Yates, Perry <<u>Perry.Yates@mail.house.gov</u>>; Hendrickson,

Randall < Randall. Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

2

John,

We would appreciate some available dates and times to discuss the internal process regarding EERE FOAs and the decisions that led to the changes.

Thanks,

Meyer

Meyer Seligman

Professional Staff Member
Senate Committee on Appropriations
Subcommittee on Energy and Water Development
Meyer Seligman@appro.senate.gov

From: Vonglis, John G. < John.Vonglis@hq.doe.gov> Sent: Wednesday, September 12, 2018 3:16 PM To: Shimek, Jaime < Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < <u>Bridget.Forcier@hg.doe.gov</u>>; Johns, Christopher < <u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Christopher (Appropriations)

<<u>Christopher Hanson@appro.senate.gov</u>>; Seligman, Meyer (Appropriations)

<Meyer Seligman@appro.senate.gov>; Yates, Perry <Perry.Yates@mail.house.gov>; Hendrickson,

Randall < Randall. Hendrickson@Hq. Doe. Gov>

Subject: RE: Solar FOA Change

Again, just for my understanding – esp if need to convey to my ldshp: changes are not within the purview of that Office?

10W, I'm trying to get to the core concern. We can chat if you prefer.

Best,

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy

Washington, D.C. 20585

202-586-4171

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Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

Meyer_Seligman < Meyer Seligman@appro.senate.gov >; Yates, Perry < Perry.Yates@mail.house.gov >;

Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

The specifics for the last-mentioned FOA are in the email chain below. I understand the other FOA was a Wind FOA on offshore wind but I do not have additional specifics.

What concerns us is this seems to be an ongoing issue. Hence the request for the briefing, Looking forward to getting it set up.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

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Cc: Forcier, Bridget < Bridget.Forcier@hg.doe.gov >; Johns, Christopher

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Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

Jaime,

Not sure where this is coming from. Kindly provide specifics so that we can address appropriately.

Best,

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

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To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcler@hq.doe.gov >; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher Hanson@appro.senate.gov</u>>; Meyer_Seligman <<u>Meyer Seligman@appro.senate.gov</u>>; Yates, Perry <<u>Perry.Yates@mail.house.gov</u>> Subject: [EXTERNAL] RE: Solar FOA Change

Hi John and Team CFO,

We continue to hear that EERE FOAs are being pulled down and changed. These FOAs seem to range from internally approved and not yet made public to FOAs that have been made public and applications have been submitted, with career staff selecting awardees (though negotiations with those awardees do not seem to have been started).

We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

Please let me know what dates and times Ms. Tripodi and EERE are available next week.

Thanks.

Jalme

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hg.doe.gov>; Johns, Christopher

<<u>Christopher Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher Hanson@appro.senate.gov</u>>

Subject: RE: Solar FOA Change

Jaime,

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

From: Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doc.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>, Johns, Christopher < Christopher. Johns@Hq.Doe.Gov>,

Hanson, Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here — which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the pre-award negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angie <Angie.Giancarlo@mail.house.gov>;

Yates, Perry < Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

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From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < Jaime. Shimek@mail. house.gov >; Giancarlo, Angie

<a href="mailto:Mailto:Angie.Giancarlo@mail.house.govPerry.Yates@mail.house.gov

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfrom!@ld.doe.gov >; Giancarlo, Angie < Angie.Glancarlo@mail.house.gov >;

Yates, Perry < Perry.Yates@mail.house.gov Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Glancarlo, Angie Angie Siancarlo@mailtouse.gov">Angie Siancarlo@mailtouse.gov; Yates, Perry Perry Yates@mailtouse.gov;

Shlmek, Jaime < Cc: Forcier, Bridget < Bridget.Forcier@hg.doe.gov

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I Just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro
External Coordination
CFO Office of Budget
US Department of Energy

202-586-3260

This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.

Rodriguez, Susan (CONTR)

From:

Vonglis, John G.

Sent:

Monday, September 24, 2018 5:31 PM

To:

Varnasidis, Sophia Menezes, Mark

Cc: Subject:

FW: [EXTERNAL] Re: RE: Solar FOA Change

We probably should talk.

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 8:13 PM

To: Varnasidis, Sophia \Sophia \Sophia

<Cathy.Tripodi@hq.doe.gov>

Cc: Wilmot, Dan < <u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James < <u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian < <u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall < <u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael

<Rachael,Beitler@hq.doe.gov>, Everett, Jazmin <Jazmin.Everett@hq.doe.gov>, Johns, Christopher

< Christopher. Johns @Hq. Doe. Gov>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

Sophia,

That's fine. However, please know they're expecting to hear from Cathy.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Varnasidis, Sophia <Sophia. Varnasidis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 7:55 PM

To: Vonglis, John G. >, Menezes, Mark >, Tripodi, Cathy

<Cathy.Tripodi@hq.doe.gov>

Cc: Wilmot, Dan <<u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James <<u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian <<u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael <Rachael.Beitler@hq.doe.gov>

Subject: RE: [EXTERNAL] Re; RE: Solar FOA Change

Ok thanks John, can we include:

- 1) Katie Jereza, she is an engineer and has been helpful with the technical aspects of the Solar FOA, and
- 2) Steve Chalk, he is the EERE Acting DAS for Renewables, and is most intimately familiar with this Solar FOA.

From: Vonglis, John G. <John. Vonglis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 6:16 PM

To: Varnasidis, Sophia <<u>Sophia.Varnasidis@hq.doe.gov</u>>, Menezes, Mark <<u>Mark.Menezes@hq.doe.gov</u>>, Tripodi, Cathy <Cathy, Tripodi@hq.doe.gov>

Cc: Wilmot, Dan < <u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James < <u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian < <u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall < <u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael < <u>Rachael.Beitler@hq.doe.gov</u>>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

Sophia,

OK. Yes, 4 corners.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Varnasidis, Sophia <Sophia. Varnasidis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 6:11 PM

To: Vonglis, John G. <<u>John.Vonglis@hq.doe.gov</u>>, Menezes, Mark <<u>Mark.Menezes@hq.doe.gov</u>>, Tripodi, Cathy <Cathy, Tripodi@hq.doe.gov>

Cc: Wilmot, Dan <<u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James <<u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian <<u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael <<u>Rachael.Beitler@hq.doe.gov</u>>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

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John G. Vonglis

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Cc: Meyer_Seligman < Meyer_Seligman@appro.senate.gov; Forcier, Bridget < Meyer_Seligman@appro.senate.gov; Johns, Christopher < Meyer_Christopher_Hanson@appro.senate.gov; Yates, Perry < Perry.Yates@mail.house.gov; Hendrickson, Randall < Meyer-Randall.Hendrickson@Hq.Doe.Gov; Everett, Jazmin < Meyer-Jazmin.Everett@hq.doe.gov

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Meyer Seligman

Professional Staff Member
Senate Committee on Appropriations
Subcommittee on Energy and Water Development
Meyer Seligman@appro.senate.gov

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Again, just for my understanding – esp if need to convey to my ldshp: changes are not within the purview of that Office?

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John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

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Cc: Forcier, Bridget \(\text{Spridget.Forcier@hq.doe.gov} \), Johns, Christopher \(\text{Christopher.Johns@Hq.Doe.Gov} \),

Hanson, Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here — which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the pre-award negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' <renfroml@id.doe.gov>; Giancarlo, Angie <Angie.Giancarlo@mail.house.gov>;

Yates, Perry < Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime <Jaime.Shimek@mail.house.gov>; Giancarlo, Angie

<a href="mail-house.g

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >;

Yates, Perry < Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov>; Yates, Perry < Perry. Yates@mail.house.gov>;

Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hg.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will

be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

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| ************************ |

This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.

Rodriguez, Susan (CONTR)

From:

Everett, Jazmin

Sent:

Monday, September 24, 2018 5:54 PM

To:

Vonglis, John G.

Cc: Subject: Hendrickson, Randall; Johns, Christopher RE: [EXTERNAL] Re: RE: Solar FOA Change

Thank you!

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 8:04 PM

To: Everett, Jazmin < Jazmin. Everett@hq.doe.gov>

Cc: Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov >, Johns, Christopher < Christopher. Johns@Hq.Doe.Gov >

Subject: FW: [EXTERNAL] Re: RE: Solar FOA Change

FYI

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Varnasidis, Sophia < Sophia. Varnasidis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 7:55 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov >, Menezes, Mark < Mark. Menezes@hq.doe.gov >, Tripodi, Cathy

<Cathy, Tripodi@hq.doe.gov>

Cc: Wilmot, Dan < <u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James < <u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian < <u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall < <u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael < Rachael.Beitler@hq.doe.gov>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

Ok thanks John, can we include:

- 1) Katie Jereza, she is an engineer and has been helpful with the technical aspects of the Solar FOA, and
- 2) Steve Chalk, he is the EERE Acting DAS for Renewables, and is most intimately familiar with this Solar FOA.

From: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 6:16 PM

To: Varnasidis, Sophia <Sophia.Varnasidis@hq.doe.gov>, Menezes, Mark <Mark.Menezes@hq.doe.gov>, Tripodi, Cathy

< Cathy. Tripodi@hq.doe.gov>

Cc: Wilmot, Dan <<u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James <<u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian <<u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael <<u>Rachael.Beitler@hq.doe.gov</u>>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

Sophia,

OK. Yes, 4 corners.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Varnasidis, Sophia < Sophia. Varnasidis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 6:11 PM

To: Vonglis, John G. <<u>John.Vonglis@hq.doe.gov</u>>, Menezes, Mark <<u>Mark.Menezes@hq.doe.gov</u>>, Tripodi, Cathy

< Cathy. Tripodi@hq.doe.gov>

Ce: Wilmot, Dan < <u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James < <u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian < <u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall < <u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael

<Rachael.Beitler@hq.doc.gov>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

+Cathy

John – I was emailing with EERE just a bit ago. S3 would like to participate along with Cathy. Also to clarify – is this a 4 corners meeting?

Sophia

From: Vonglis, John G.

Sent: Monday, September 24, 2018 6:07 PM

To: Menezes, Mark <Mark.Menezes@hq.doe.gov>; Varnasidis, Sophia <Sophia.Varnasidis@hq.doe.gov> Cc: Wilmot, Dan <Dan.Wilmot@hq.doe.gov>; Colgary, James <James.Colgary@hq.doe.gov>; McCormack, Brian <Brian.Mccormack@hq.doe.gov>; Hendrickson, Randall <Randall.Hendrickson@Hq.Doe.Gov>; Beitler, Rachael <Rachael.Beitler@hq.doe.gov>

Subject: FW: [EXTERNAL] Re: RE: Solar FOA Change

FYI

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Monday, September 24, 2018 6:03 PM
To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Meyer_Seligman < Meyer_Seligman@appro.senate.gov>; Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher < Christopher - Hanson@appro.senate.gov>; Yates,

Perry < Perry < a href="Perry.Yates@mail.house.gov">Perry

Subject: [EXTERNAL] Re: RE: Solar FOA Change

Great news. We would like this meeting to happen this week. We look forward to seeing Cathy. As a reminder, we expect this meeting to occur and our questions to be answered before DOE takes any further action on the Solar FOA in question, as my original email at the end of this chain stated.

Thanks, Jaime

On Sep 24, 2018, at 12:32 PM, Vonglis, John G. < John. Vonglis@hq.doe.gov > wrote:

Meyer,

Uncanny. Our ExCo folks are coordinating as I write this.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Seligman, Meyer (Appropriations) < Meyer_Seligman@appro.senate.gov>

Date: Monday, Sep 24, 2018, 12:28 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov >, Shimek, Jaime < Jaime. Shimek@mail.house.gov >

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>, Johns, Christopher < Christopher.Johns@Hq.Doe.Gov>, Hanson, Chistopher < Christopher_Hanson@appro.senate.gov>, Yates, Perry < Perry.Yates@mail.house.gov>,

Hendrickson, Randall < Randall, Hendrickson@Hq.Doe.Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

Following up on this again – we would like some dates as soon as possible.

From: Seligman, Meyer (Appropriations)
Sent: Monday, September 17, 2018 4:05 PM

To: 'Vonglis, John G.' < John. Vonglis@hq.doe.gov >; Shimek, Jaime < Jaime. Shimek@mail.house.gov >

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

< Christopher. Johns@Hq. Doe. Gov >; Hanson, Christopher (Appropriations)

<Christopher Hanson@appro.senate.gov>; Yates, Perry <Perry.Yates@mail.house.gov>; Hendrickson,

Randall < Randall. Hendrickson@Hq. Doe. Gov>

Subject: RE: Solar FOA Change

John,

We would appreciate some available dates and times to discuss the internal process regarding EERE FOAs and the decisions that led to the changes.

Thanks,

Meyer

Meyer Seligman

Professional Staff Member
Senate Committee on Appropriations
Subcommittee on Energy and Water Development
Meyer Seligman@appro.senate.gov

From: Vonglis, John G. < <u>John.Vonglis@hq.doe.gov</u>>
Sent: Wednesday, September 12, 2018 3:16 PM
To: Shimek, Jaime < Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < <u>Bridget.Forcier@hq.doe.gov</u>>; Johns, Christopher < <u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Christopher (Appropriations)

<Christopher Hanson@appro.senate.gov>; Seligman, Meyer (Appropriations)

< Meyer Seligman@appro.senate.gov>; Yates, Perry < Perry. Yates@mail.house.gov>; Hendrickson,

Randall < Randall. Hendrickson@Hq. Doe. Gov>

Subject: RE: Solar FOA Change

Again, just for my understanding – esp if need to convey to my ldshp: changes are not within the purview of that Office?

IOW, I'm trying to get to the core concern. We can chat if you prefer.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 3:09 PM To: Vonglis, John G. <John.Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher Hanson@appro.senate.gov</u>>; Meyer Seligman Seligman@appro.senate.gov; Yates, Perry Perry.Yates@mail.house.gov; Yates, Perry.Yates@mail.house.gov; Yates Yates@mail.house.gov; Yates@mail.house.gov; Yates@mail.hou

Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

The specifics for the last-mentioned FOA are in the email chain below. I understand the other FOA was a Wind FOA on offshore wind but I do not have additional specifics.

What concerns us is this seems to be an ongoing issue. Hence the request for the briefing. Looking forward to getting it set up.

Thanks,

Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Wednesday, September 12, 2018 3:05 PM
To: Shimek, Jaime < Jaime, Shimek@mail.house.gov >

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

<<u>Christopher Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher Hanson@appro.senate.gov</u>>; Meyer_Seligman <<u>Meyer Seligman@appro.senate.gov</u>>; Yates, Perry <<u>Perry.Yates@mail.house.gov</u>>;

Hendrickson, Randall < Randall. Hendrickson@Hq. Doe. Gov>

Subject: RE: Solar FOA Change

Jaime,

Not sure where this is coming from. Kindly provide specifics so that we can address appropriately.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 1:42 PM To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher Hanson@appro.senate.gov</u>>; Meyer_Seligman <<u>Meyer Seligman@appro.senate.gov</u>>; Yates, Perry <<u>Perry.Yates@mail.house.gov</u>>

Subject: [EXTERNAL] RE: Solar FOA Change

Hi John and Team CFO,

We continue to hear that EERE FOAs are being pulled down and changed. These FOAs seem to range from internally approved and not yet made public to FOAs that have been made public and applications have been submitted, with career staff selecting awardees (though negotiations with those awardees do not seem to have been started).

We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

Please let me know what dates and times Ms. Tripodi and EERE are available next week.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >

Cc: Forcier, Bridget < Bridget < Bridget < Bridget < Christopher - Christopher - Christopher - Hanson@appro.senate.gov Christopher - Hanson@appro.senate.gov Subject: RE: Solar FOA Change

Jaime,

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

From: Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget Bridget Bridget Bridget <a href="mailto:Springer-Johns@Hg.Do

Hanson, Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

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Jaime

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Yates, Perry <Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

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To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >; Giancarlo, Angie

<a href="mailto:mailto:Mailto:Angie.Giancarlo@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

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Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >;

Yates, Perry < Perry. Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie. Giancarlo@mail.house.gov >; Yates, Perry < Perry. Yates@mail.house.gov >;

Shimek, Jaime < <u>Jaime.Shimek@mail.house.gov</u>>
Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any guestions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.

Rodriguez, Susan (CONTR)

From:

Vonglis, John G.

Sent:

Tuesday, September 25, 2018 4:15 AM

To:

Wilmot, Dan

Subject:

RE: [EXTERNAL] Re: RE: Solar FOA Change

Thanks and agree.

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Wilmot, Dan < Dan, Wilmot@hq.doe.gov>

Date: Tuesday, Sep 25, 2018, 7:11 AM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov > Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

No hurry...just don't want to unnecessarily delay briefing requests

Dan Wilmot Deputy COS

Department of Energy

(b) (6)

Direct Cell

(b) (6)

From: Vonglis, John G.

Sent: Tuesday, September 25, 2018 7:11 AM
To: Wilmot, Dan <Dan.Wilmot@hq.doe.gov>
Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

Will call you in a few.

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Wilmot, Dan < Dan.Wilmot@hq.doe.gov>

Date: Tuesday, Sep 25, 2018, 7:07 AM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>
Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

(b)(5)

Dan Wilmot Deputy COS

Department of Energy

(b) (6)

Direct

(b) (6)

Cell

From: Vonglis, John G.

Sent: Monday, September 24, 2018 6:17 PM

To: Varnasidis, Sophia < Sophia. Varnasidis@hq.doe.gov >; Menezes, Mark < Mark. Menezes@hq.doe.gov >; Tripodi, Cathy < Cathy. Tripodi@hq.doe.gov >

Cc: Wilmot, Dan <<u>Dan.Wilmot@hq.doe.gov</u>>; Colgary, James <<u>James.Colgary@hq.doe.gov</u>>; McCormack, Brian <<u>Brian.Mccormack@hq.doe.gov</u>>; Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>; Beitler, Rachael <Rachael.Beitler@hq.doe.gov>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

Sophia,

OK. Yes, 4 corners.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Varnasidis, Sophia < Sophia. Varnasidis@hq.doe.gov>

Date: Monday, Sep 24, 2018, 6:11 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov >, Menezes, Mark < Mark. Menezes@hq.doe.gov >, Tripodi, Cathy < Cathy. Tripodi@hq.doe.gov >

Cc: Wilmot, Dan <<u>Dan.Wilmot@hq.doe.gov</u>>, Colgary, James <<u>James.Colgary@hq.doe.gov</u>>, McCormack, Brian <<u>Brian.Mccormack@hq.doe.gov</u>>, Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>, Beitler, Rachael <<u>Rachael.Beitler@hq.doe.gov</u>>

Subject: RE: [EXTERNAL] Re: RE: Solar FOA Change

+Cathy

John – I was emailing with EERE just a bit ago. S3 would like to participate along with Cathy. Also to clarify – is this a 4 corners meeting?

Sophia

From: Vonglis, John G.

Sent: Monday, September 24, 2018 6:07 PM

To: Menezes, Mark < Mark. Menezes@hq.doe.gov >; Varnasidis, Sophia < Sophia. Varnasidis@hq.doe.gov > Cc: Wilmot, Dan < Dan. Wilmot@hq.doe.gov >; Colgary, James < James. Colgary@hq.doe.gov >; McCormack, Brian < Brian. Mccormack@hq.doe.gov >; Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov >; Beitler, Rachael < Rachael. Beitler@hq.doe.gov >

Subject: FW: [EXTERNAL] Re: RE: Solar FOA Change

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Monday, September 24, 2018 6:03 PM
To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Meyer_Seligman < Meyer_Seligman@appro.senate.gov>; Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher < Christopher_Johns@Hq.Doe.Gov>; Hanson, Chistopher < Christopher_Hanson@appro.senate.gov>; Yates, Perry < Perry.Yates@mail.house.gov>; Hendrickson, Randall < Randall.Hendrickson@Hq.Doe.Gov>; Everett, Jazmin < Jazmin.Everett@hq.doe.gov>

Subject: [EXTERNAL] Re: RE: Solar FOA Change

Great news. We would like this meeting to happen this week. We look forward to seeing Cathy. As a reminder, we expect this meeting to occur and our questions to be answered before DOE takes any further action on the Solar FOA in question, as my original email at the end of this chain stated.

Thanks, Jaime

On Sep 24, 2018, at 12:32 PM, Vonglis, John G. < John. Vonglis@hq.doe.gov> wrote:

Meyer,

Uncanny. Our ExCo folks are coordinating as I write this.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Seligman, Meyer (Appropriations) < Meyer Seligman@appro.senate.gov>

Date: Monday, Sep 24, 2018, 12:28 PM

To: Vonglis, John G. <<u>John.Vonglis@hq.doe.gov</u>>, Shimek, Jaime <<u>Jaime.Shimek@mail.house.gov</u>>
Cc: Forcier, Bridget <<u>Bridget.Forcier@hq.doe.gov</u>>, Johns, Christopher <<u>Christopher.Johns@Hq.Doe.Gov</u>>,
Hanson, Chistopher <<u>Christopher Hanson@appro.senate.gov</u>>, Yates, Perry <<u>Perry.Yates@mail.house.gov</u>>,
Hendrickson, Randall <<u>Randall.Hendrickson@Hq.Doe.Gov</u>>

Subject: [EXTERNAL] RE: Solar FOA Change

Following up on this again - we would like some dates as soon as possible.

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Sent: Monday, September 17, 2018 4:05 PM

To: 'Vonglis, John G.' < John. Vonglis@hq.doe.gov >; Shimek, Jaime < Jaime. Shimek@mail.house.gov >

Cc: Forcier, Bridget < <u>Bridget.Forcier@hq.doe.gov</u>>; Johns, Christopher < <u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Christopher (Appropriations)

<<u>Christopher Hanson@appro.senate.gov</u>>; Yates, Perry <<u>Perry.Yates@mail.house.gov</u>>; Hendrickson,

Randall < Randall. Hendrickson@Hq.Doe.Gov>

Subject: RE: Solar FOA Change

John,

We would appreciate some available dates and times to discuss the internal process regarding EERE FOAs and the decisions that led to the changes.

Thanks,

Mever

Meyer Seligman

Professional Staff Member
Senate Committee on Appropriations
Subcommittee on Energy and Water Development
Meyer Seligman@appro.senate.gov

From: Vonglis, John G. <<u>John.Vonglis@hq.doe.gov</u>>
Sent: Wednesday, September 12, 2018 3:16 PM
To: Shimek, Jaime <<u>Jaime.Shimek@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>; Johns, Christopher < Christopher.Johns@Hq.Doe.Gov>; Hanson, Christopher (Appropriations) < Christopher Hanson@appro.senate.gov>; Seligman, Meyer (Appropriations)

< Meyer Seligman@appro.senate.gov>; Yates, Perry < Perry.Yates@mail.house.gov>; Hendrickson,

Randall < Randall. Hendrickson@Hq. Doe. Gov>

Subject: RE: Solar FOA Change

Again, just for my understanding – esp if need to convey to my ldshp: changes are not within the purview of that Office?

IOW, I'm trying to get to the core concern. We can chat if you prefer.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 3:09 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher Hanson@appro.senate.gov</u>>;

Meyer_Seligman < Meyer_Seligman < Meyer_Seligman < Meyer_Seligman < Meyer_Seligman@appro.senate.gov; Yates, Perry < Perry.Yates@mail.house.gov;

Hendrickson, Randall < Randall. Hendrickson@Hq. Doe. Gov>

Subject: [EXTERNAL] RE: Solar FOA Change

The specifics for the last-mentioned FOA are in the email chain below. I understand the other FOA was a Wind FOA on offshore wind but I do not have additional specifics.

What concerns us is this seems to be an ongoing issue. Hence the request for the briefing. Looking forward to getting it set up.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Wednesday, September 12, 2018 3:05 PM
To: Shimek, Jaime <Jaime.Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher_Hanson@appro.senate.gov</u>>;

Meyer_Seligman < Meyer_Seligman@appro.senate.gov; Yates, Perry < Perry.Yates@mail.house.gov;

Hendrickson, Randall < Randall. Hendrickson@Hg. Doe. Gov>

Subject: RE: Solar FOA Change

Jaime,

Not sure where this is coming from. Kindly provide specifics so that we can address appropriately.

Best,

John

John G. Vonglis

Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 202-586-4171

From: Shimek, Jaime [mailto:Jaime.Shimek@mail.house.gov]

Sent: Wednesday, September 12, 2018 1:42 PM To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher_Hanson@appro.senate.gov</u>>;

Meyer_Seligman < Meyer_Seligman@appro.senate.gov>; Yates, Perry < Perry.Yates@mail.house.gov>

Subject: [EXTERNAL] RE: Solar FOA Change

Hi John and Team CFO,

We continue to hear that EERE FOAs are being pulled down and changed. These FOAs seem to range from internally approved and not yet made public to FOAs that have been made public and applications

have been submitted, with career staff selecting awardees (though negotiations with those awardees do not seem to have been started).

We are concerned about what is going on here, and we would like the Acting A/S, Cathy Tripodi, and relevant EERE staff to come brief us next week. We'll do one briefing for the four corners.

Please let me know what dates and times Ms. Tripodi and EERE are available next week.

Thanks, Jaime

From: Vonglis, John G. [mailto:John.Vonglis@hq.doe.gov]

Sent: Friday, August 31, 2018 8:22 PM

To: Shimek, Jaime < Jaime, Shimek@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >; Johns, Christopher

<<u>Christopher.Johns@Hq.Doe.Gov</u>>; Hanson, Chistopher <<u>Christopher_Hanson@appro.senate.gov</u>>

Subject: RE: Solar FOA Change

Jaime.

Will look into it.

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20583 (202) 586-4171

From: Shimek, Jaime < Jaime, Shimek@mail.house.gov>

Date: Friday, Aug 31, 2018, 8:12 PM

To: Vonglis, John G. < John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov >, Johns, Christopher < Christopher, Johns@Hq.Doe.Gov >,

Hanson, Chistopher < Christopher Hanson@appro.senate.gov>

Subject: Solar FOA Change

John,

We received the below information about a change to the Solar FOA for Advanced Systems Integration Technologies.

I understand that under the original FOA, career DOE officials had selected \$40 million worth of projects. I'm told that DOE now intends to cancel those and make the applicants folks re-compete under altered terms.

We are going to need a full briefing from the Department BEFORE anything is done to cancel, postpone, and/or put a hold on any of the \$40 million in projects that were originally selected under the original FOA, and BEFORE anything is done to put out a new FOA.

The way the notification below is worded did not give us any insight into what really happened here — which appears to be that \$40 million worth of awards had already been selected and were probably going through some stage of the pre-award negotiation process. We consider this important information, which I would hope the Department did not leave out intentionally.

Again, we expect a briefing before ANY action is taken on this FOA or altered FOA.

Jaime

From: Shimek, Jaime

Sent: Friday, August 31, 2018 4:39 PM

To: 'Renfro, Mindy L' < renfroml@id.doe.gov >; Giancarlo, Angie < Angie.Giancarlo@mail.house.gov >;

Yates, Perry <Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov >

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

EERE should not do anything publicly or formally with this until we understand what is happening here.

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 4:38 PM

To: Shimek, Jaime < Jaime. Shimek@mail.house.gov >; Giancarlo, Angie

<<u>Angie.Giancarlo@mail.house.gov</u>>; Yates, Perry <<u>Perry.Yates@mail.house.gov</u>>

Cc: Forcier, Bridget < Bridget. Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I need to double check. I'll get back to you with an answer.

From: Shimek, Jaime < Jaime. Shimek@mail.house.gov>

Sent: Friday, August 31, 2018 4:36 PM

To: Renfro, Mindy L < renfroml@id.doe.gov; Giancarlo, Angie < Angie < Angie.Giancarlo@mail.house.gov;

Yates, Perry < Perry Perry.Yates@mail.house.gov>

Cc: Forcier, Bridget < Bridget.Forcier@hq.doe.gov>

Subject: RE: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

How far along was this FOA process? Had applicants been selected and notified?

From: Renfro, Mindy L [mailto:renfroml@id.doe.gov]

Sent: Friday, August 31, 2018 2:37 PM

To: Giancarlo, Angie < Angie, Giancarlo@mail.house.gov >; Yates, Perry < Perry. Yates@mail.house.gov >;

Shimek, Jaime <<u>Jaime.Shimek@mail.house.gov</u>>
Cc: Forcier, Bridget <<u>Bridget.Forcier@hq.doe.gov</u>>

Subject: SOLAR ENERGY TECHNOLOGY OFFICE FOA CHANGE

I just wanted to let you know that the Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) will be sending out notices to applicants of FOA-0001840 to notify them of a change to Topic Area 1 of the Funding Opportunity Announcement (FOA), Advanced Solar Systems Integration Technologies. Due to this revision, EERE plans to issue a new FOA. Applicants will be informed that if they would like to apply to the revised Topic Area 1 an application must be submitted under the new FOA.

I'm attaching the notice applicants will be receiving. As you will see in the attachment the notices will also contain the Notice of Intent to issue the updated FOA (DE-FOA-0001987).

Please let me know if you have any questions. Thanks!!!

Mindy Renfro External Coordination CFO Office of Budget US Department of Energy 202-586-3260

This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.

Rodriguez, Susan (CONTR)

Sent:

Tuesday, September 25, 2018 5:46 AM

To: Cc: Chalk, Steven Gay, Charlie

Subject:

RE: Solar FOA topic 1

Hi Steve,

Got it - will send it over by noon.

Best, Becca

----Original Message-----From: Chalk, Steven

Sent: Tuesday, September 25, 2018 7:59 AM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Cc: Gay, Charlie < Charlie.Gay@EE.DOE.Gov>

Subject: Solar FOA topic 1

Becca - Cathy and I will likely go to the Hill to discuss Solar FOA status. Could you put together a chronology that I can use for background talkers?

FOA release date, applications closed date, date of notification that Topic 1 would be resolicited.... anything else you think is pertinent.

Could you send me the notice to stakeholders on resoliciting topic 1?

Need by Noon if possible.

Steven Chalk
Deputy Assistant Secretary for Transportation
Acting Deputy Assistant Secretary for Renewable Power
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

Rodriguez, Susan (CONTR)

From:

Jones-Albertus, Becca

Sent:

Tuesday, September 25, 2018 5:51 AM

To:

Kane, Victor

Subject:

RE: Solar FOA topic 1

Also, please don't share the email below. Thanks!

----Original Message----

From: Jones-Albertus, Becca

Sent: Tuesday, September 25, 2018 8:48 AM To: Kane, Victor < Victor.Kane@EE.Doe.Gov>

Subject: FW: Solar FOA topic 1

Hi Victor,

Do you have time right now to help pull together the dates below and any other dates that are relevant? I think Kyle is at SPI... Let me know if not or if you have to go before you'd finish. :)

Thanks! Весса

----Original Message----

From: Chalk, Steven

Sent: Tuesday, September 25, 2018 7:59 AM

To: Jones-Albertus, Becca <Becca, Jones-Albertus@ee, doe.gov>

Cc: Gay, Charlie < Charlie. Gay@EE.DOE.Gov>

Subject: Solar FOA topic 1

Becca - Cathy and I will likely go to the Hill to discuss Solar FOA status. Could you put together a chronology that I can use for background talkers?

FOA release date, applications closed date, date of notification that Topic 1 would be resolicited..., anything else you think is pertinent.

Could you send me the notice to stakeholders on resoliciting topic 1?

Need by Noon if possible.

Steven Chalk

Deputy Assistant Secretary for Transportation Acting Deputy Assistant Secretary for Renewable Power Office of Energy Efficiency and Renewable Energy

U.S. Department of Energy

Document 56

Rodriguez, Susan (CONTR)

From:

Kane, Victor

Sent:

Tuesday, September 25, 2018 6:32 AM

To; Subject: Jones-Albertus, Becca RE: Solar FOA topic 1

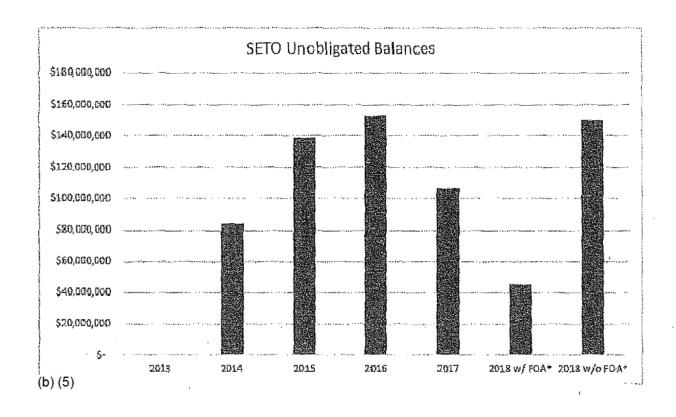
Attachments:

FY18 FOA Calendar.docx; SETO FOA Topic Area 1 Notice with NOI 20180831 Final.docx;

Notice_of_Intent_(NOI)_DE-FOA-0001986.docx

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----Original Message----From: Jones-Albertus, Becca

Sent: Tuesday, September 25, 2018 9:01 AM To: Kane, Victor < Victor.Kane@EE.Doe.Gov>

Subject: RE; Solar FOA topic 1

Yes please, thanks!

----Original Message----

From: Kane, Victor

Sent: Tuesday, September 25, 2018 8:58 AM

To: Jones-Albertus, Becca < Becca. Jones-Albertus@ee.doe.gov>

Subject: RE: Solar FOA topic 1

Yes, I'll work on this now. Should I email back to you directly?

----Original Message----From: Jones-Albertus, Becca

Sent: Tuesday, September 25, 2018 8:48 AM

To: Kane, Victor < Victor.Kane@EE.Doe.Gov>

Subject: FW: Solar FOA topic 1

HI Victor,

Do you have time right now to help pull together the dates below and any other dates that are relevant? I think Kyle is at SPI... Let me know if not or if you have to go before you'd finish.:)

Thanksl Becca

----Original Message-----From: Chalk, Steven

Sent: Tuesday, September 25, 2018 7:59 AM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Cc: Gay, Charlie < Charlie. Gay@EE.DOE.Gov>

Subject: Solar FOA topic 1

Becca - Cathy and I will likely go to the Hill to discuss Solar FOA status. Could you put together a chronology that I can use for background talkers?

FOA release date, applications closed date, date of notification that Topic 1 would be resolicited.... anything else you think is pertinent.

Could you send me the notice to stakeholders on resoliciting topic 1?

Need by Noon if possible.

Steven Chalk
Deputy Assistant Secretary for Transportation
Acting Deputy Assistant Secretary for Renewable Power
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

| ■ March | | | April 2018 | | | |
|-----------------|---|--|---|-------------------------------|--------------|--|
| Sun 1 Easter | Mon - 2 | - Tue 3 | Wed 4 | Thu 5 | Fri - | Sat |
| 8 | 9 | 10 | 11 | 12 Vandaslikeski soning | 13 | 14 |
| 15 | 16 RELABASE/ ANNOUNGE FOA Weblaats lideste Soendlegal | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 informational Wealthars | 24 Informational Webinars | 25 | 26 | 27 | 28 |
| 29 | 30 | The state of the s | No. 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 | | | A CONTRACTOR OF THE PROPERTY O |

| ✓ April | | | May 2018 | | | June ▶ |
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| Sun | Mon | Tue 1 | Wed 2 | Thu 3 Compliance Sheet to GO for review | Fri 4 COIs Due | Sat- |
| 6 | 7 Soleminie | 8 | 9 Concept Papers Due | 10 Complance Review | 11 Complance Cal with GEO | 12 |
| 13 Mother's Day | 14 Assign to reviewers | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 Concept Paper Reviews Due | 26 |
| 27 | 28 Memorial Day | 29 Scrubi Comments | 30 Delemine Encourage, Discourage | 31 Determine Encourage/ Discourage | | |

| ✓ May | | , | June 2018 | 3 | | |
|-----------------|-----------------|-------------------------------|-----------|-----|--|---------------|
| Sun | Mon | Tue | Wed | Thu | Fri 1 Determing Encourage Discourage | S at 2 |
| 3 | 4 | 5 Release to applicants | 6 | 7 | 8 | 9 |
| 10 | 11 DEVIEWERS | 12 | 13 | 14 | 15 | 16 |
| 17 Falher's Day | 18 | 19 | 20 | 21 | 22 | 23 |

| ■ May | | | June 2018 | | | data de |
|--------------|-----|---|-----------|-----|-----|---------|
| Sun : | Mon | Tue | Wed | Thu | Fri | Sat |
| 24 | 25 | 26 Internative veyers about the label | 27 | 28 | 29 | 30 |

| July 2018 August ► | | | | | | | | | |
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| Sun 1 | Mon 2 | Tue 3 | Wed 4 Indep. Day | Thu 5 Full Apps Due | Fri 6 compliance peview | Sat 7 | | | |
| 8 | 9 Compliance Call With GEO | 10 Apps to Reviewers | 11 Holdefederrer pedangarcedings | 12 Foldi Falliah en Brefolkgansahligs | 13 | 14 | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | | | |
| 29 | 30 Reviewer Comments Due | 31 GLIGOWMENIS IN | | | | | | | |

| ◄ July | | A | ugust 201 | 18 | | September ▶ |
|---------------|---|---|--|--|--|-------------|
| Sun | Mon | Tue | Wed 1 Seith Confidents | Thu 2 Release Comment to Applicants | Fri 3 | Sat 4 |
| 5 | 6 | 7 | 8 Reply to Comments Due Reglies Compliance | 9 Medicaleviny (CSR) Send to Reviewers | 10 Marcheview(GSP) | 11 |
| 12 | 13 Men Review (M Men Review (ME) Men Review (ME) | 14 Montreviou(EV) Mentreview (Wis Mentreview (No.) | 15 Meniseriavski MediseviavsWE Medisevjavskis | 16 Meduravisi | 17 | 18 |
| 19 | 20 Desistantskog Medjarevijintereli | 21 Decisionnaking, Maailan wijhia/lab | 22 Posisionniskipe Mesira vontoreb | 23 Diselferenaking Medingswifelbleid | 24 Secundary by 27 10 Comms material sent up | 25 |
| 26 | 27 Brief DAS | 28 (69) (30) | 29 Brief EE-1 cancelled | 30 | 31 | |

| August September 2018 | | | | | | | |
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| Sun | Mon | Tue | Wed | Thu | Fri | Sat 1 | |
| | 3 Labor Day | | 5 | | 7 | 8 | |
| 9 | 10 72 Viake New Awards | 11 | 12 | 13 | 14 | 15 | |
| 16 | 17 | 18 | 19 | 20 | 21 2nd courtesy Sensitivity Check | 22 | |
| 23 | Press Release Issued at SPI | 25 | 26 | 27 | 28 | 29 | |
| 30 | The second secon | | | | | | |

| ■ September | | October 2018 | | | | | | |
|-------------|----------------|--------------|--------------|-----------------|---------------|------------------|--|--|
| Sun | Mon 1 | Tue 2 | Wed 3 | Thu 4 | F ri 5 | November ► Sat 6 | | |
| 7 | 8 Columbus Day | 9 | 10 | 11 Come Out Day | 12 | 13 | | |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | | |
| 28 | 29 | 30 | 31 Halloween | | | | | |

More 2018 Calendar Layouts... Excel Format, Microsoft Word Format, Holiday Calendar

| ✓ October | | No | vember 20 | 18 | | December > |
|--------------------------------|-----|----------------|-----------|---------------------|----------|------------|
| Sun | Mon | Tue | Wed | Thu _ | Fri 2 | Sat 3 |
| 4 Daylight Saving Time Ends | | 6 Election Day | 7 | 8 | 9 | 10 |
| 11 Veterens Day | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 Thanksgiving Day | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | |

| November | | De | cember 20 |)18 | | January I |
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| Sun | Mon | Franklit Townskin in Committee of the | A STATE OF THE RESERVE OF THE PARTY OF THE PARTY OF THE PARTY. | Thu | Fri | Sat 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
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| 16 | 17 | 18 | 19 | 20 | 21 Winter Solatice | 22 |
| 23 | 24 | 25 Christmas | 26 | 27 | 28 | 29 |
| 30 | 31 | | | Continue College | | |

US Holidays for 2018. List includes popular religious & festive days. Courtesy of **WinCalendar.com**

| Jan 1 | New Year's Day |
|--------|-------------------------------------|
| Jan 15 | Martin Luther King |
| Feb 2 | Groundhog Day |
| Feb 4 | Super Bowl |
| Feb 14 | Valentine's Day |
| Feb 19 | Presidents Day |
| Feb 21 | Int'l. Mother Language |
| Mar 8 | Int'l. Women's Day . |
| Mar 11 | Daylight Saving Begins |
| Mar 17 | Saint Patrick's Day |
| Mar 20 | Spring Begins (Northern Hemisphere) |
| Mar 24 | World Tuberculosis Day |
| Mar 30 | Good Friday |
| Apr 1 | Easter |
| Apr 10 | Equal Pay Day |
| Apr 17 | Tax Day (Taxes Due) |
| Apr 22 | Earth Day |
| Apr 23 | World Immunization Week Starts |
| Apr 25 | Administrative Professionals |
| Apr 27 | Arbor Day |
| May 5 | Cinco De Mayo |
| May 13 | Mother's Day |
| May 19 | Armed Forces Day |
| May 28 | Memorial Day |
| Jun 14 | Flag Day |
| Jun 17 | Father's Day |
| Jun 21 | Summer Solstice |
| Jul 1 | Canada Day |
| Jul 4 | Indep. Day |
| Aug 1 | Nat'l. Girlfriend Day |
| Sep 3 | Labor Day |
| Sep 11 | Patrlot Day |
| Sep 22 | Fall begins |
| Oct 8 | Columbus Day |
| Oct 11 | Come Out Day |
| Oct 31 | Halloween |
| Nov 4 | Daylight Saving Time Ends |
| Nov 6 | Election Day |
| Nov 11 | Veterans Day |
| Nov 22 | Thanksglving Day |
| Dec 21 | Winter Solstice |

Dec 25

Christmas

SETO FOA TOPIC AREA 1 NOTICE

On behalf of the Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), we would like to thank you for submitting an application in response to the Solar Energy Technology Office (SETO) FY18 Funding Opportunity Announcement (FOA) DE-FOA-0001840. We are writing to inform you of a change to Topic Area 1 of the FOA, Advanced Solar Systems Integration Technologies.

DOE is committed to improving the affordability of energy technologies and strengthening the Energy Sector's capability to withstand cyber and physical threats, including natural disasters. Improving the strategic location and situational awareness of solar systems can help ensure continuity of service in the face of widespread and coordinated threats. Developing innovative approaches to accelerate the transfer of solar system solutions that will improve Energy Sector resilience is also a priority.

In order to better align the FOA objectives to the mission objectives of DOE, EERE plans to revise Topic Area 1 and issue a new FOA. <u>Because a new FOA is planned, if you would like to apply to the revised Topic Area 1, an application must be submitted under the new FOA in EERE Exchange by the deadline.</u> Please carefully review the revised emphasis and program objectives when the new FOA is issued, and revise your application accordingly.

On behalf of EERE, we would like to express our sincere appreciation for the significant time and effort you and your team invested in preparing this application, and for your interest and participation in the EERE Solar Energy Technologies Office activities. We hope that you will continue to participate in future activities and programs with EERE.

The Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0001987 is provided below for your reference.



Notice of Intent No. DE-FOA-0001986

Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0001987

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Solar Energy Technology Office, a Funding Opportunity Announcement (FOA) entitled "Advanced Solar Systems Integration Technologies".

This FOA supports the mission of the Solar Energy Technologies Office (SETO) which is to support early-stage research and development to improve the performance and flexibility of solar technologies that contribute to a reliable and resilient U.S. electric grid. The office invests in innovative research efforts that securely integrate more solar energy into the grid, enhance the use, storage and dispatch of solar energy, and lower solar electricity costs.

DOE is committed to improving the affordability of energy technologies and strengthening the Energy Sector's capability to withstand cyber and physical threats, including natural disasters. Improving the strategic location and situational awareness of solar systems can help ensure continuity of service in the face of widespread and coordinated threats. Developing innovative approaches to accelerate the transfer of solar system solutions that will improve Energy Sector resilience is also a priority.

It is anticipated that the FOA may include the following Areas of Interest:

Topic 1.1 Solar Grid Integration

This topic will support applications to research and fleid validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should identify the strategic location of solar photovoltaic (PV) systems that will ensure the Energy Sector provides continuity of service in the face of wide spread and coordinated threats. These solutions can be deployed throughout the bulk power systems or associated transmission to distribution substations. It is expected that the same design concepts will be applicable for energy storage and other distributed energy resources (DERs). The approaches will test the systems' ability to operate and adapt at both steady and degraded states. Applications must consider diverse DER options (e.g. photovoltaics, energy storage, and flexible load)

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available as well as power systems engineering alternatives, and demonstrate the benefits of the proposed solutions. It should also be shown in these solutions how a fleet of multiple photovoltaics systems from multiple locations will be able to respond to fast changing conditions under normal operations and provide power to critical loads during grid outages — with consideration of other DER options and distribution system constraints. Example projects may include, but are not limited to, new design and use-case concepts, essential reliability services, adaptive capabilities, voltage support, previously uncontemplated and unique capabilities and control hardware and software innovations for smart PV inverters and DER management systems. Applications must have an assessment of economic viability of the proposed system, activity or component in the respective part of the project.

Applicant's solar photovoltaic projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These solar photovoltaic projects shall seek to reduce vulnerabilities, minimize consequences, identify and disrupt threats, and hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

Topic 1.2 Solar Situational Awareness and Analysis

This Topic will support applications to research and field validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should enhance operator capability to observe solar systems deployed throughout the bulk power systems or associated transmission to distribution substations or Behind-the-Meter (BTM) solar including but not limited to battery storage, systems controls, and demand response. Primary focus areas include solar photovoltaic integrated sensor technologies, secure and robust electricity supply delivery and communication tools, advanced data analytics including Artificial intelligence and Machine to Machine capabilities, and voltage testing. Projects with secondary focus areas may also be considered which include the integration of observed data into planning, operations and business unit systems that would operate at both steady and degraded states. Applications must have an assessment of economic viability of the proposed system, activity or component in the respective part of the project.

Applicant's solar situational awareness and analysis projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These projects shall seek to contribute to one or

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more risk components: reduce vulnerabilities, minimize consequences, identify and disrupt threats, and/or hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

Topic 1.3 Solar Technology Transfer

This topic will explore unique and innovative approaches to accelerate the transfer of solar system solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Potential areas of interest include, but are not limited to, projects or models that deploy alternative capital, for technology R&D transfer, incentivize industry-researcher collaboration, leverage existing facilities or capabilities, data and build approaches and methods that serve to drive down the hardware cost and ensure solutions, validation, certifications, resilience and electricity supply to withstand wide spread and coordinated threats compatible with Topic 1.1 and Topic 1.2

Applicant's solar technology transfer projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These projects shall seek to contribute to one or more risk components: reduce vulnerabilities, minimize consequences, identify and disrupt threats, and/or hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award will be approximately 3 years.

This Notice is issued so that interested parties are aware of the EERE's intention to issue this FOA in the near term. All of the information contained in this Notice is subject to change. EERE will not respond to questions concerning this Notice. Once the FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA on or about September 15, 2018 via the EERE Exchange website https://eere-exchange.energy.gov/. If Applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE Exchange. When the FOA is released, applications will be accepted only through EERE Exchange.

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Questions related to the registration process and use of the EERE Exchange website should be submitted to: EERE-ExchangeSupport@hq.doe.gov

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at http://fedgov.dnb.com/webform
- Register with the System for Award Management (SAM) at https://www.sam.gov. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register in FedConnect at https://www.fedconnect.net/. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect Ready Set Go.pdf
- Register in Grants.gov to receive automatic updates when Amendments to a FOA are
 posted. However, please note that applications <u>will not</u> be accepted through
 Grants.gov. http://www.grants.gov/. All applications must be submitted through EERE Exchange.

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Notice of Intent No. DE-FOA-0001986

Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0001987

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Solar Energy Technology Office, a Funding Opportunity Announcement (FOA) entitled "Advanced Solar Systems Integration Technologies".

This FOA supports the mission of the Solar Energy Technologies Office (SETO) which is to support early-stage research and development to improve the performance and flexibility of solar technologies that contribute to a reliable and resilient U.S. electric grid. The office invests in innovative research efforts that securely integrate more solar energy into the grid, enhance the use, storage and dispatch of solar energy, and lower solar electricity costs.

DOE is committed to improving the affordability of energy technologies and strengthening the Energy Sector's capability to withstand cyber and physical threats, including natural disasters. Improving the strategic location and situational awareness of solar systems can help ensure continuity of service in the face of widespread and coordinated threats. Developing innovative approaches to accelerate the transfer of solar system solutions that will improve Energy Sector resilience is also a priority.

It is anticipated that the FOA may include the following Areas of Interest:

Topic 1.1 Solar Grid Integration

This topic will support applications to research and field validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should Identify the strategic location of solar photovoltaic (PV) systems that will ensure the Energy Sector provides continuity of service in the face of wide spread and coordinated threats. These solutions can be deployed throughout the bulk power systems or associated transmission to distribution substations. It is expected that the same design concepts will be applicable for energy storage and other distributed energy resources (DERs). The approaches will test the systems' ability to operate and adapt at both steady and degraded states. Applications must consider diverse DER options (e.g. photovoltaics, energy storage, and flexible load) available as well as power systems engineering alternatives, and demonstrate the benefits of the proposed solutions. It should also be shown in these solutions how a fleet of multiple photovoltaics systems from multiple locations will be able to respond to fast changing conditions under normal operations and provide power to critical loads during grid outages — with consideration of other DER

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options and distribution system constraints. Example projects may include, but are not limited to, new design and use-case concepts, essential reliability services, adaptive capabilities, voltage support, previously uncontemplated and unique capabilities and control hardware and software innovations for smart PV inverters and DER management systems. Applications must have an assessment of economic viability of the proposed system, activity or component in the respective part of the project.

Applicant's solar photovoltaic projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These solar photovoltaic projects shall seek to reduce vulnerabilities, minimize consequences, identify and disrupt threats, and hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

Topic 1.2 Solar Situational Awareness and Analysis

This Topic will support applications to research and field validate unique and innovative solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Specifically, the solutions should enhance operator capability to observe solar systems deployed throughout the bulk power systems or associated transmission to distribution substations or Behind-the-Meter (BTM) solar including but not limited to battery storage, systems controls, and demand response. Primary focus areas include solar photovoltaic integrated sensor technologies, secure and robust electricity supply delivery and communication tools, advanced data analytics including Artificial intelligence and Machine to Machine capabilities, and voltage testing. Projects with secondary focus areas may also be considered which include the integration of observed data into planning, operations and business unit systems that would operate at both steady and degraded states. Applications must have an assessment of economic viability of the proposed system, activity or component in the respective part of the project.

Applicant's solar situational awareness and analysis projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These projects shall seek to contribute to one or more risk components: reduce vulnerabilities, minimize consequences, identify and disrupt threats, and/or hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

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Topic 1.3 Solar Technology Transfer

This topic will explore unique and innovative approaches to accelerate the transfer of solar system solutions that will improve the resiliency of the Energy Sector's capability to withstand all hazards; focusing on cyber and physical vectors. Potential areas of interest include, but are not limited to, projects or models that deploy alternative capital, for technology R&D transfer, incentivize industry-researcher collaboration, leverage existing facilities or capabilities, data and build approaches and methods that serve to drive down the hardware cost and ensure solutions, validation, certifications, resilience and electricity supply to withstand wide spread and coordinated threats compatible with Topic 1.1 and Topic 1.2

Applicant's solar technology transfer projects may require working with critical infrastructure owners and operators and state, local, tribal and territories entities to take proactive steps to manage risk and strengthen the security and resilience of the Nation's critical infrastructure, considering all hazards that could have a debilitating impact on national security, economic stability, public health and safety, or any combination thereof. These projects shall seek to contribute to one or more risk components: reduce vulnerabilities, minimize consequences, identify and disrupt threats, and/or hasten response and recovery efforts related to critical infrastructure to ensure public health and safety while improving national security and economic security.

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award will be approximately 3 years.

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- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at http://fedgov.dnb.com/webform
- Register with the System for Award Management (SAM) at https://www.sam.gov.
 Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register in FedConnect at https://www.fedconnect.net/. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Gol Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect Ready Set Go.pdf
- Register in Grants.gov to receive automatic updates when Amendments to a FOA are
 posted. However, please note that applications will not be accepted through
 Grants.gov. http://www.grants.gov/. All applications must be submitted through EERE
 Exchange.

From:

Jones-Albertus, Becca

Sent:

Tuesday, September 25, 2018 6:50 AM

To:

Goldstone, Michael

Subject:

RE: need info on what's procurement sensitive

Thanks

From: Goldstone, Michael

Sent: Tuesday, September 25, 2018 9:49 AM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Subject: RE: need info on what's procurement sensitive

(b) (5)

. Apologies.

From: Jones-Albertus, Becca < Becca Jones-Albertus@ee.doe.gov>

Date: Tuesday, Sep 25, 2018, 9:04 AM

To: Goldstone, Michael < Michael. Goldstone @ee.doe.gov>

Subject: need info on what's procurement sensitive

Hi Michael,

If we get questions from the Hill on the canceled Topic 1, (b) (5)

(b) (5)

Thanks!

Becca

From:

Jones-Albertus, Becca

Sent:

Tuesday, September 25, 2018 6:54 AM

To:

Kane, Victor

Subject:

RE: Full application data

Were some of these thrown out? (b) (5)

----Original Message----

From: Kane, Victor

Sent: Tuesday, September 25, 2018 9:51 AM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>

Subject: Full application data

I can't tell exactly how Kyle categorized applications. Based on this file we can accurately state that:

(b)(5)

From:

Kane, Victor

Sent:

Tuesday, September 25, 2018 6:58 AM

To:

Kane, Victor, Jones-Albertus, Becca

Subject:

Conversation with Kane, Victor

Kane, Victor 9:06 AM:

Hi Becca, do you have the dates of the briefing and the decision to cancel topic 1? i don;t have that Jones-Albertus, Becca 9:07 AM:

I think all we need is date cancellation was sent out. Charlie sent an email to us with that info - (b) (5) Kane, Victor 9:08 AM:

ok

Jones-Albertus, Becca 9:10 AM:

(b)(5)

Jones-Albertus, Becca 9:32 AM:

(b)(5)

Kane, Victor 9:32 AM:

let me check, i just sent you a draft, can you check it out and see if there is anything else we should include? Jones-Albertus, Becca 9:35 AM:

Looks great! Just one more date- (b) (5)

Kane, Victor 9:36 AM:

(b)(5)

Jones-Albertus, Becca 9:37 AM:

Thanks

Kane, Victor 9:51 AM:

I sent some additional data, are we all set on this or should we include additional info?

Jones-Albertus, Becca 9:54 AM:

Thanks. Will be all set once we resolve the last question I just sent.

Kane, Victor 9:54 AM:

yeah, should I call Kyle? I wasn; t involved in the sorting process

jeremey is also online

let me see if Jeremey and I can figure it out

Jones-Albertus, Becca 9:55 AM:

Actually just found the status column. There are just 92 after filter out "not submitted"

Kane, Victor 9:55 AM:

nicel

ok then if you re-sum the totals column you will have the values

Jones-Albertus, Becca 9:56 AM:

yep, thanks! Good to go.

Thank you!

Kane, Victor 9:57 AM:

ok great!

From:

Gay, Charlie

reconstruction of the particular and the particular

Sent:

Tuesday, September 25, 2018 10:51 AM

To:

Jones-Albertus, Becca

Subject:

RE: Solar FOA topic 1

Thanks Becca !

Charlie
 202-287-1987

From: Jones-Albertus, Becca

Sent: Tuesday, September 25, 2018 10:50 AM To: Chalk, Steven < Steven. Chalk@ee.doe.gov > Cc: Gay, Charlie < Charlie. Gay@EE.DOE. Gov >

Subject: RE: Solar FOA topic 1

Hi Steve.

Resource estimates added to the background document here. Notice and NOI also reattached so you have everything in one place.

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Best,

Becca

From: Chalk, Steven

Sent: Tuesday, September 25, 2018 10:27 AM

To: Jones-Albertus, Becca < Becca, Jones-Albertus@ee.doe.gov>

Cc: Gay, Charlie < Charlie.Gay@EE.DOE.Gov>

Subject: RE: Solar FOA topic 1

Yes. Send me resources spent (topic 1 only).

Steven Chalk

Deputy Assistant Secretary for Transportation

Acting Deputy Assistant Secretary for Renewable Power

Office of Energy Efficiency and Renewable Energy

U.S. Department of Energy

From: Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov>

Date: Tuesday, Sep 25, 2018, 10:22 AM

To: Chalk, Steven <<u>Steven.Chalk@ee.doe.gov</u>> Cc: Gay, Charlie <<u>Charlie.Gay@EE.DOE.Gov</u>>

Subject: RE: Solar FOA topic 1

Hi Steve,

Attached are the key dates for the FOA, as well as some quick background that could be useful. Also attached in one

document is the Notice that went to Topic 1 applicants and the Notice of Intent for the revised FOA.

Please let us know if you need any other information. I will note that we have also estimated the amount of resources spent preparing and reviewing Topic 1 proposals (DOE and external resources). If you would like those numbers, please let us know.

Best, Becca

----Original Message----From: Chalk, Steven Sent: Tuesday, September 25, 2018 7:59 AM

To: Jones-Albertus, Becca < Becca.Jones-Albertus@ee,doe.gov>

Cc: Gay, Charlie < Charlie.Gay@EE.DOE.Gov >

Subject: Solar FOA topic 1

Becca - (b) (5)

FOA release date, applications closed date, date of notification that Topic 1 would be resolicited.... anything else you think is pertinent.

Could you send me the notice to stakeholders on resoliciting topic 1?

Need by Noon if possible.

Steven Chalk
Deputy Assistant Secretary for Transportation
Acting Deputy Assistant Secretary for Renewable Power
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

Document 61.

Rodriguez, Susan (CONTR)

From:

Chalk, Steven

Sent:

Tuesday, September 25, 2018 7:09 PM

To:

Jones-Albertus, Becca; Gay, Charlie; Fitzsimmons, Alexander

Subject:

Issue paper for Topic 1

Attachments:

FY18 SETO FOA Topic 1 issue.docx

Becca, Charlie and Alex - any comments? Close hold---please do not distribute further.

Steven Chalk
Deputy Assistant Secretary for Transportation
Acting Deputy Assistant Secretary for Renewable Power
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

Solar FOA Briefing Paper

Issue: DOE released a FY 18 solar research Funding Opportunity Announcement (FOA) covering 4 topics. While(b) (5) for Topics 2-4 on concentrated solar power, PV materials, and workforce initiatives are ready to announce, we plan to re-issue Topic 1 Systems Integration (\$46M) to better align with DOE priorities.

Rationale for Issuing New FOA Topic 1:

- Original Topic 1 solely focused on distributed PV providing multiple grid services with minimal
 cyber focus and more passive situational awareness. Included PV Integration with other DER
 technologies to improve dispatchability and technology transfer from lab to real-world
 applications. Four subtopics covering these themes were not very distinguishable.
- New FOA Topic 1 emphasizes PV solutions that directly address energy security and resilience
 for critical infrastructure. It includes both bulk power level (i.e., utility scale solar) and
 distributed solar. Heavily emphasizes need for solutions in response to cyber and physical
 threats for continuity of service (of critical infrastructure) and projects must demonstrate
 greater resiliency and assured energy to Nation's critical infrastructure.
- New FOA only has two subtopics that are clearly distinguishable. A "research" subtopic and a
 "research and validation" subtopic. Applicants apply only to one or the other. Technology
 transfer is embedded in both subtopics (not a separate subtopic as in the original FOA).
- New FOA expands the high range of projects from \$4.5M to \$10M to allow for more critical mass projects that might attract major industry players.
- New FOA ready to release; approximate 45-day open proposal period.

Original FOA Timeline

- April 16 FOA Released; DOE <u>issued a press release</u>.
- May 9 Concept papers due
- June 5 DOE Encourage/Discourage decisions released
- July 5 Full applications due
- August 8 Reply to reviewer comments due from applicants
- August 9-17 In-person merit reviews held
- August 31
 - Topic 1 applicants (92) notified that DOE plans to revise FOA topic to strengthen ability to withstand cyber and physical threats. Applicants advised they need to apply to new FOA.
 - A Notice of Intent issued on EERE Exchange to inform all stakeholders of FOA being issued (b) (5)

From:

Gay, Charlie

Sent:

Wednesday, September 26, 2018 6:48 AM

To:

Chalk, Steven

Cc:

Jones-Albertus, Becca; Fitzsimmons, Alexander

Subject:

RE: Issue paper for Topic 1

Hi Steve:

No additional comments....

Charlie
 202-287-1987

From: Chalk, Steven

Sent: Wednesday, September 26, 2018 8:27 AM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>; Gay, Charlie <Charlie.Gay@EE.DOE.Gov>; Fitzsimmons,

Alexander < Alexander . Fitzsimmons@ee.doe.gov>

Subject: RE: Issue paper for Topic 1

Ok. Pll reduce it

Steven Chalk

Deputy Assistant Secretary for Transportation

Acting Deputy Assistant Secretary for Renewable Power

Office of Energy Efficiency and Renewable Energy

U.S. Department of Energy

From: Jones-Albertus, Becca < Becca.Jones-Albertus@ee.doe.gov>

Date: Wednesday, Sep 26, 2018, 7:58 AM

To: Chalk, Steven < Steven. Chalk@ee.doe.gov >, Gay, Charlie < Charlie. Gay@EE.DOE.Gov >, Fitzsimmons, Alexander

<Alexander, Fitzsimmons@ee.doe.gov>

Subject: RE: Issue paper for Topic 1

Hi Steve,

This looks good to me. As I believe you know, (b) (5)

Best,

Becca

From: Chalk, Steven < Steven. Chalk@ee.doe.gov>

Date: Tuesday, Sep 25, 2018, 10:09 PM

To: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>, Gay, Charlie <Charlie.Gay@EE.DOE.Gov>, Fitzsimmons,

Alexander <<u>Alexander.Fitzsimmons@ee.doe.gov</u>>

Subject: Issue paper for Topic 1

Becca, Charlie and Alex - any comments? Close hold---please do not distribute further.

Steven Chalk
Deputy Assistant Secretary for Transportation
Acting Deputy Assistant Secretary for Renewable Power
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

From:

Jones-Albertus, Becca

Sent:

Monday, October 01, 2018 3:33 PM

To:

Hamos, Ian

Subject:

FW: SETO FY18 FOA Signed FRD

Attachments:

EERE 101 FRD Part 1 SETO FY18 FOA_Signed.pdf; EERE 101 FRD Part 1_SETO.DOCX

Nov 20, 2017: Daniel (PDAS) briefed and approved FRD, and FRD submitted to EERE queue for MA.

So both dates I owe you are the same - Nov. 20. I haven't been able to track down the email where Alex sent the edits to the FOA language itself but will send that over if I can get it from someone else.

Becca

----Original Message----

From: Jones-Albertus, Becca

Sent: Monday, November 20, 2017 5:51 PM

To: Fitzsimmons, Alexander < Alexander. Fitzsimmons@ee.doe.gov>

Cc: Gay, Charlie < Charlie.Gay@EE,DOE,Gov>; Unruh, Timothy < Timothy.Unruh@EE.Doe.Gov>; Garson, Jennifer

<Jennifer.Garson@EE.doe.gov>

Subject: FW: SETO FY18 FOA Signed FRD

Hi Alex,

Thanks for the meeting and discussion on the proposed FY18 SETO FOA earlier today. As follow up, we took the next step outlined in the FRD and sent our FRD Part 1 to Kara to put in the queue for MA review. The FRD Part 1 is attached for your reference. Please let us know at any point if there's anything else we can provide to be helpful, particularly given the complexity of our FRD with the 4 budget scenarios included.

Thank you, Becca

----Original Message----

From: Kane, Victor

Sent: Monday, November 20, 2017 4:23 PM

To: Peralta, Kara Houston < Kara Houston. Peralta@ee.doe.gov>

Cc: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>; Gay, Charlie <Charlie.Gay@EE.DOE.Gov>

Subject: SETO FY18 FOA Signed FRD

Hi Kara,

SETO has completed the FRD part 1 document for the 'SETO FY18 FOA.' The keys steps on the new FRD process mention I (the FOA manager) should send you a copy. I have attached the signed copy as well as the .docx version incase that is helpful.

Please let me know if there is any other information I should provide.

Best.

Victor



Audience: EE-1

Purpose: Used by Director to <u>consult</u> EE-1 and DAS prior to FRD approval. Describes key FOA elements to inform briefings with EERE Senior Leadership. Equips EE-1 with the necessary information to pursue MA approval for the FOA concept.

Key Steps for FRD Part 1:

- 1. FOA Manager and Director draft FRD Part 1. The response to each question should range from a few sentences (minimum) to a few paragraphs (maximum).
- 2. FOA Manager sends a courtesy copy of FRD Part 1 to CO, Legal, and IP prior to briefing EE-1.
- 3. Director <u>approves</u> FRD Part 1 after consulting with DAS, briefing EE-1, and incorporating any recommendations from the briefing.
- 4. FOA Manager sends signed FRD Part 1 to <u>KaraHouston, Peralta@ee.doe.gov</u> and FOA concept goes into the MA review queue.
- 5. FOA Manager begins drafting FRD Part 2 (MA review and approval happen in parallel).

Changes: If the FOA concept, TRL, or Federal Funding (increase of over \$500K) changes after the FRD Part 1 is approved, EE-1 must be re-briefed with an updated FRD Part 1.

| Technology Office | Solar Energy Technologies Office |
|---|---|
| Program (e.g., CSP) | SETO (all subprograms) |
| FOA Title | Solar Energy Technologies Office Funding Opportunity Announcement |
| DOE Funding Amount and Appropriation Year | Presidential Request = \$2M FOA House Mark = FOA will provide up to \$21M Senate Mark = FOA will provide up to \$80M Full year CR = FOA will provide up to \$105M |
| Estimated FOA Publication Month/Year | December 2017 |

What is the budgetary basis of this FOA?

a. Describe the FOA's alignment with the FY18 Presidential Budget Request (Include page numbers).

The FY 2018 Presidential Budget request for the Solar Energy Technologies Office is Volume 3, pages 97-115. With the exception of the workforce training topic, the FOA is directly aligned with the R&D priorities stated in the request on pages 97-108 and summarized by the first paragraph on page 97.

"EERE's Solar Energy Program funds early stage research and development (R&D) to build the knowledge base upon which industry can achieve dramatic reductions in the cost of solar electricity and address challenges related to integrating high penetrations of solar energy into the nation's electricity grid... The Solar Energy Program embraces two complementary technology approaches; direct conversion of solar photons to electricity by a semiconductor

(i.e., photovoltaics - PV) and conversion of photons to thermal energy that may be stored before it is used to generate electricity (i.e., concentrating solar power-CSP), while also advancing the state of knowledge on grid integration of solar generation. These approaches and objectives will invigorate American technological leadership in solar energy, diversify the Nation's electricity supply, enhance grid resiliency and reliability, catalyze domestic economic growth, and reduce the air and water impacts of electricity generation."

At the request level, this FOA will fund only the FOA proposed in the request on p. 106: "FY 2018 funding will also support a \$2M competitive solicitation aimed at developing innovative microgrid concepts with the greatest potential to improve resiliency and cybersecurity, while increasing consumer power supply choices. Current work at the National Laboratories is focused on developing the proper metrics to use in this funding opportunity announcement. The solicitation will focus on early-stage research and development of models for cooperative control technologies for advanced microgrid structures."

The workforce training topic was not included in the President's request as it was not a priority for funding at that level. It is, however, aligned with recent Administration priorities for STEM training and addresses the Senate direction to fund the Solar Ready Vets program.

| b. | Which of the following is applicable to the FOA? |
|----|--|
| | ☐ Statutorily Directed |
| | ☑ Congressionally Directed (report language provides specific direction for FOA or topic area) |
| | ☑ Congressionally Directed (report language provides general direction relevant to FOA) |
| | □ None |
| | • |

 If statutorily or congressionally directed, include the statutory or report language verbatim and citation. (Consult with Legal Counsel, Legislative Affairs, and Budget Office as necessary).

Applicable FY18 House Report Language:

The Committee encourages the Department to research high efficiency thin-film
photovoltaics and processes for high-speed, low-cost processing to produce stable
materials on flexible substrates that can be used in residential and commercial power
and be integrated into buildings, vehicles, and food production. Research programs are
encouraged to include cooperation between industry and academia and to include
advanced optical characterization that enables development of strong correlations
between materials, cell optical properties, and the photovoltaic power performance of
the working solar cells.

Applicable FY18 Senate Report Language:

The Committee recommends \$48,000,000 for Photovoltaic Research and Development.
 Research programs for high efficiency thin-film photovoltaics and processes are encouraged to include cooperation between industry and academia, and to include advanced optical characterization that enables development of strong correlations

between materials and cell optical properties, and the photovoltaic power performance of the working solar cells.

- The Committee recommends \$10,500,000 for Balance of System Soft Cost Reduction
- Within available funds, the Committee recommends \$48,000,000 for Concentrating Solal Power research, development, and demonstration of technologies that reduce overall system costs, better integrate subsystem components, develop higher-temperature receivers, and improve the design of solar collection and thermal energy storage. Within this amount \$12,000,000 is recommended for competitively selected projects focused or advanced thermal desalination techniques.
- The Committee recommends \$45,000,000 for Systems Integration.
- The Committee recommends \$16,000,000 for Innovations in Manufacturing Competitiveness.
- The Committee recognizes that solar energy is one of the fastest growing industries in the United States, and employs over 260,000 workers today. Within available funds, the Committee recommends \$1,000,000 for the Secretary's contribution to the joint Solar Ready Vets program within the Department of Defense as a way to train America's veterans to fill this growing skill need.

Applicable FY17 Senate Report Language (not contravened by the Omnibus):

 Within available funds, \$1,000,000 for the Secretary's contribution to the Joint Solar Ready Vets program with the Department of Defense.

| 2. | Which DOE crosscut | ting priorities does | this FOA address? | Check all that apply. |
|----|----------------------|----------------------|-------------------|---|
| | ☐ Critical Materials | ☑ Grid Reliability | STEM Training | Energy-Water Nexus |
| | | ☐ Transportation | Energy Storage | Other (write in): |
| | | | | eviously, list which fiscal years Administration priorities. |

3. What strategic goals and additional priorities does this FOA address?

Responses could address one or more of the following questions:

- Why was the FOA vehicle selected over alternative options (as opposed to lab projects or other means)?
- Why is this a high impact problem and how is success measured?
- How will EERE funding lead to economic growth for the United States?
- Why is this investment a necessary and proper role of government, e.g.,
 - o How does this FOA addresses a gap private industry isn't filling?
 - How will this FOA let industry step in and/or transition the resulting projects to private commercialization?

Solar energy has the potential to contribute significantly to the Secretary's priorities of energy affordability, grid reliability and resilience, however early-stage research is needed to enable the industry to overcome grid integration challenges and realize long-term substantial cost

reductions. This FOA will focus on the early-stage research needed to generate new scientific understanding and to drive significant advances in solar and grid integration technology, focusing on long-term research well beyond the near-term focus of the industry. In addition, in response to Congressional direction and OMB priorities, the FOA will support workforce training to enable the industry to continue to be a source of job creation (the solar industry created 1000 new jobs each week in 2016), with a particular emphasis on training of veterans. This FOA will be run to solicit the best possible projects that build a strong and diverse portfolio, complementing National Laboratory research.

The solar industry has changed rapidly and significantly over the last 5 years and SETO has carefully considered how best to utilize limited funding to maximize the achievement of the Secretary's priorities. Government funding is critical to anticipating and funding innovative technology to address the future challenges of grid integration of high penetrations of solar energy across the U.S. that are beyond the focus of today's industry, as well as to harness the potential for solar energy to enhance grid reliability and resilience. In addition, SETO has set 2030 cost targets to further reduce the cost of solar electricity across all market sectors, which would make solar one of the least-expensive sources of electricity, supporting economic growth, energy affordability and job creation.

The FOA encourages partnerships between academic researchers and industry, which should prepare successful work to transition to private commercialization. In addition, the innovative Pathways topic also seeks to overcome systemic barriers to private sector commercialization of solar energy technologies, which would support earlier private sector adoption of successful research funded in this FOA.

4. Brief Description of FOA and Topic Areas

Provide context, at the EE-1 level, for the FOA and the balance of this document. Minimum recommended length is a few sentences, maximum recommended length is a few paragraphs.

The Solar Energy Technologies Office supports early-stage research and development of solar technologies that enhance the reliability, resilience, and security of the U.S. electric grid. The FOA will invest in innovative research efforts that lower solar electricity costs to promote energy affordability, securely and reliably integrate more solar energy into the grid, and enhance the use and storage of solar energy. These early-stage efforts will provide the technological foundations necessary to continue the solar industry's growth and preserve American energy, choice, independence, and security.

SETO is consolidating its funding programs for FY18 into a single FOA that covers the high priority research areas within Concentrating Solar Power (CSP), Systems Integration, and Photovoltaics. The FOA topics under a full year CR and the Senate mark would be:

Topic 1: Adaptive Local Grids and Advanced Systems Integration Technologies (20% cost share, TRL 2-5) - Early-stage research and development focusing on an adaptive

local grid architecture that will enhance resilience as well as specific technologies that enable solar energy to contribute to grid reliability and resilience.

- Topic 1.1 Adaptive Local Grids Research and field validate innovative technologies for interconnecting distributed PV and other distributed energy resources (DERs).
- Topic 1.2 Solar Observability Develop and investigate integration of sensor data technologies to support grid planning and operation with high PV penetration.
- Topic 1.3 Solar + X Research and field validate innovative approaches to integrate solar with synergistic technologies (e.g., energy storage, building controls and demand response) to provide solar energy on demand as well as support power quality on the grid.
- Topic 1.4 Innovative Pathways: Systems Integration Investigation of innovative approaches and models to bring private capital earlier in the technology R&D cycle and ensure systems integration and related technologies have adequate support to get closer to market.
- Topic 2: Innovative Concentrating Solar Power Technologies: CSP component and system research on potentially breakthrough CSP technologies compatible with the dispatchable solar thermal electricity cost target of 5 ¢/kWh LCOE.
 - Topic 2.1 Small Innovative Projects in Solar (SIPS): Concentrating Solar Power - Small, focused projects investigating the applicability of emerging thermal or optical manipulation processes and relevant material systems to the CSP application.
 - Topic 2.2 Advanced CSP Collectors R&D of novel solar collectors enabling improvement on the state of the art collector cost, efficiency, solar concentration ratio, and deployment time.
 - Topic 2.3 Advanced Power Cycles for CSP R&D of advanced power cycles to Improve the state of the art thermal to electric conversion efficiency, system cost, reliability, and compatibility with CSP. Strong emphasis is placed on supercritical CO₂ cycle R&D.
 - o Topic 2.4 Advanced CSP Thermal Transport System and Components R&D of innovative components for the conversion of solar radiation to heat, and the movement, storage, and exchange of that heat. Emphasis placed on temperatures above 700°C.
 - o Topic 2.5 Innovative Pathways: Concentrating Solar Power Investigation of innovative approaches and models to bring private capital earlier in the technology development cycle and ensure CSP and related technologies have adequate support to get closer to market.
- Topic 3: Photovoltaics Research and Development: R&D on the next generation of PV technologies that can enable 50 year lifetimes and 3 ¢/kWh electricity costs.

- Topic 3.1 Small Innovative Projects in Solar (SIPS): Photovoltaics Small, focused projects in novel and/or emerging areas of photovoltaics research, which inherently involve significant technical risk but have the potential to produce dramatic impact
- Topic 3.2 Increasing Affordability, Reliability, and Manufacturability of PV Cells, Modules, and Systems PV research aimed at the development of technologies leading to substantial improvements in performance and reliability of PV technologies as well as reducing their materials, supply chain, and manufacturing costs
- O Topic 3.3 Collaborative Cross-Cutting PV Research Projects that enable a team to work across complementary capabilities on coordinated projects to solve early-stage research challenges including but not limited to surface passivation, interfaces and carrier-selective contacts, metallization, newer and industrially-relevant cell designs and architectures, wafer or thin film processing and fabrication, cell interconnection and module design, cell and module reliability, and multi-junction devices
- Topic 3.4 Innovative Pathways: Photovoltaics Investigation of innovative approaches and models to bring private capital earlier in the technology development cycle and ensure PV and related technologies have adequate support to get closer to market.
- Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives:
 Projects that expand the skills and competencies of the solar-related workforce and increase inclusion of different groups in the solar industry.
 - Topic 4.1 Increasing Inclusion in the Solar Workforce Workforce training programs to prepare veterans and other underrepresented groups to enter the growing PV industry.
 - Topic 4.2 Digital Adaptation in Power Systems through Workforce Initiatives - Program to develop and test training resources that support the digital transition in power systems with high penetrations of solar energy.

Under the House mark, the topics would be (see descriptions above but with substantially reduced scope in many areas):

- Topic 1: Adaptive Local Grids and Advanced Systems Integration Technologies (20% cost share, TRL 2-5)
 - o Topic 1.1 Adaptive Local Grids
- Topic 2: Innovative Concentrating Solar Power Technologies
 - o Topic 2.1 Small Innovative Projects in Solar (SIPS): CSP
- Topic 3: Photovoltaics Research and Development
 - o Topic 3.1 Small Innovative Projects in Solar (SIPS): PV

- Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives
 - Topic 4.1 Increasing Inclusion in the Solar Workforce
 - o Topic 4.2. Digital Adaptation in Power Systems through Workforce Initiatives

At the President's request, the topic would be:

Topic 1.1 Adaptive Local Grids

5. FOA Summary

The table below describes SETO's plans for FOA topics depending on which funding scenario is provided. The cells are structured to show:

- 1. The expected total amount of funding allocated for the subtopic
 - a. Note: The actual funding numbers per subtopic may be somewhat higher or lower depending on the number and quality of applications within each subtopic
- 2. The average expected amount for an individual award within that subtopic
 - a. Note: Individual award amounts may be somewhat higher or lower than the expected amount depending on the scope of the project
- 3. The expected award duration for a project within that subtopic
 - a. Note: Depending on the scope of the proposed project, some projects may have shorter durations, and in rare cases, longer durations
- 4. The expected number of awards that could be made for the subtopic
 - a. Note: The actual number of awards per subtopic will depend on the number and quality of applications within each subtopic

All funds are FY18 dollars except for \$1M of FY17 funding in Topic 4.1.

| 7 111 16411415 | are i 110 donais except i | | | | |
|---|---------------------------|---------------|-------------------|-------------------|-----------------|
| | Tania Titla | Request | House Mark | Senate Mark | Full Year CR |
| | Topic Title | (\$2M) | (\$21M) | (\$80M) | (\$105M) |
| TOPIC 1: A | daptive Local Grids, Adva | nced Systems | Integration Techn | ologies (20% cost | share, TRL 2-5) |
| Topic 1.1 | Adaptive Local Grids | ~\$2M | ~\$9M | ~\$18M | ~\$18M |
| • | ' | "\$400k/award | ~\$3M/award | ~\$4.5M/award | ~\$4.5M/award |
| | | ~2 years | ~3 years | ~3 years | ~3 γears |
| | | ~5 aWards | ~3 awards | ~4 awards | ~4 awards |
| Topic 1.2 | Solar Observability | X | Х | ~\$12M | ~\$18M |
| | | | } | ~\$3M/award | ~\$3M/award |
| Tople 1.3 | Solar + X | V | V | ~3 years | ~3 years |
| | | X | Х | ~4 awards | ~4 awards |
| Topic 1,4 | innovative Pathways: | | | ~\$1M | ~\$2M |
| | Systems integration | х | x . | ~\$1M/award | ~\$1M/award |
| | 4,010,112 11.10 | ^ | | ~3 years | ~3 years |
| | | | | ~i awards | ~2 awards |
| Topic 2: Concentrating Solar Power Research and Development (20% cost share, TRL 2-5) | | | | | |
| Topic 2.1 | Small Innovative Projects | | ~\$4M total | ~\$4M total | ~\$5M |
| • | in Solar (SIPS): | x | ~\$300k/award | ~\$300k/award | ~\$300k/award |
| | Concentrating Solar Power | | ~1.5 years | ~1,5 years | ~1.5 years |

| | | | ~13 awards | ~13 awards | ~17 awards |
|-----------|-----------------------------|---------------|--------------------|---------------------------|---------------|
| Toplc 2.2 | Advanced CSP Collectors | | | - | |
| Topic 2.3 | Advanced Power Cycles | | | ~\$26M | ~\$34M total |
| · | for CSP | , | x | ~\$2M/award | ~\$2M/award |
| Topic 2.4 | Advanced CSP Thermal | Х | ^ | ~3 years | ~3 years |
| | Transport System and | | | ~13 awards | ~17 awards |
| | Components | | | | |
| Topic 2.5 | Innovative Pathways: | | ~\$1M | ~\$1M | ~\$1M |
| | Concentrating Solar Power | х | ~\$1M/award | ~\$1M/award | ~\$1M/award |
| | | ^ | ~3 years | ~3 years | ^3 years |
| | | | ~1 award | ~1 award | ~1 award |
| | Topic 3: Photovoltaics F | Research and | Development (2 | 0% cost share, TR | _ 2-5) |
| Toplc 3.1 | Small Innovative Projects | | ~\$2M | - ~\$2M | ~\$2M |
| | in Solar (SIPS): | × | ~\$200k/award | ~\$200k/award | ~\$200k/award |
| | Photovoltaics | ^ | ~1.5 years | ~1.5 years | ~1.5 years |
| | 1,110,101 | | ~10 awards | ~10 awards | ~10 awards |
| Topic 3.2 | Increasing Affordability, | } | | | |
| | Reliability, and | | | orden a | ~\$15M |
| | Manufacturability of PV | [| х | ~\$6M | ~\$1,5M/award |
| | Cells, Modules, and | x | | ~\$1.5M/award ~3 years | ~3 years |
| | Systems | | | ~4 awards | ~10 awards |
| Topic 3.3 | Collaborative Cross- | ì | | | |
| . opio om | Cutting PV Research | | | | |
| Topic 3.4 | Innovative Pathways: | | | · ~\$2M | \$2M |
| (ab) abit | Photovoltaics | x | | ~\$1M/award | ~\$1M/award |
| | Thousand the second | ^ | X | ~3 years | ~3 years |
| | | | | ~2 awards | ~2 awards |
| Т | opic 4: Improving and Exp | anding the | Solar Industry thr | ough Workforce li | nitiatives |
| | (No co | ost share, Ed | lucation and Outr | each) | |
| Topic 4.1 | Increasing inclusion in the | | ~\$2M* | ~\$2M* | ~\$2M* |
| Print 100 | Solar Workforce | x | ~\$1M/award | ~\$1M/award | ~\$1M/award |
| | | ^ | ~3 years | ~3 years | ~3 years |
| | | <u></u> | ~2 awards | ~2 awards | ~2 awards |
| Topic 4.2 | Digital Adaptation in | | ~\$2M | ~\$6M | ~\$6M |
| • | Power Systems through | × | ~\$1M/award | ~\$3M/award | ~\$3M/award |
| | Workforce Initiatives | ^ | ~5 years | ~5 years | ~5 years |
| | | l | ~2 awards | ~2 awards | ~2 awards |

^{*} Includes \$1M of FY17 funding for Solar Ready Vets (Senate mark)

Explain the rational for choosing the proposed TRL and, if applicable, how this TRL supports early stage research:

The TRL level will be between 2-5. SETO works in coordination with the Office of Science, which primarily focuses on TRL 1 work. Development through TRL 4-5 is necessary in order to ensure relevance of the early-stage technologies and to allow for validation testing that provides critical feedback to the research cycle.

| 6. | Which award vehicle will be used |
|----|----------------------------------|
| | X Cooperative Agreements Grants |

| 7. Will this FOA restrict eligibility to certain types of applicants? |
|--|
| ☐ No ☐ Yes, describe: |
| The only restriction is that DOE laboratories cannot be prime recipients; they can be sub recipients. This is to minimize opportunities for redundancy with FY18 AOP work and to provide greater predictability to laboratories on future funding levels. |
| 8. Does this FOA overlap with work performed by other Government agencies, DOE Offices, or EERE Offices? |
| No Yes, describe how the effort will be coordinated: |
| Coordination via regular meetings and participation in the review process with the Office of Electricity and ARPA-E are underway to ensure no overlap in work. |
| 9. FOA Development and Stakeholder Engagement How did the office responsible for the FOA engage with Industry and other external stakeholders (e.g., public workshops, RFI, Industry Input, etc.) to determine if this is the |
| right question to address or the right high-impact problem to solve? SETO has been pursuing an update of its MYPP over the last year and a half, beginning with a 2030 goal workshop and with 6 subsequent topical workshops. In addition, SETO has issued 4 recent Requests for information (RFIs) as part of its 2017 strategic planning (i.e., Photovoltaics (PV) innovation Roadmap RFI, the Grid Engineering for Accelerated Renewable Energy Deployment 2 RFI, Generation 3 CSP Systems RFI and the Solar Energy Technology Analysis & Data Needs RFI). SETO staff also continually monitor industry reports (e.g. GTM/SEIA Solar Market Insight, 2017 U.S. Solar Industry Diversity Study) and engage with stakeholders at major gatherings such as the Photovoltaics Specialists Conference, the Solar Power And Chemical Energy Systems Conference, DistribuTECH, and Solar Power International. |
| 10.Estimated Schedule FOA Publication Month/Year: December 2017 Selection Month/Year: May 2018 Award Month/Year: September 2018 |
| Award Mondif rear: September 2020 |
| APPROVAL of EERE Technology Office Director |
| Signature 20 Hovember 2017 Date |
| Signature Date |
| CHARLES F. GAY Printed Name |

Audience: EE-1

Purpose: Used by Director to <u>consult</u> EE-1 and DAS prior to FRD approval. Describes key FOA elements to Inform briefings with EERE Senior Leadership. Equips EE-1 with the necessary Information to pursue MA approval for the FOA concept.

Key Steps for FRD Part 1:

- 1. FOA Manager and Director draft FRD Part 1. The response to each question should range from a few sentences (minimum) to a few paragraphs (maximum).
- 2. FOA Manager sends a courtesy copy of FRD Part 1 to CO, Legal, and IP prior to briefing EE-1.
- 3. Director <u>approves</u> FRD Part 1 after consulting with DAS, briefing EE-1, and incorporating any recommendations from the briefing.
- 4. FOA Manager sends signed FRD Part 1 to <u>KaraHouston.Peralta@ee.doe.gov</u> and FOA concept goes into the MA review queue.
- 5. FOA Manager begins drafting FRD Part 2 (MA review and approval happen in parallel).

Changes: If the FOA concept, TRL, or Federal Funding (increase of over \$500K) changes after the FRD Part 1 is approved, EE-1 must be re-briefed with an updated FRD Part 1.

| Technology Office | Solar Energy Technologies Office |
|---|--|
| Program (e.g., CSP) | SETO (all subprograms) |
| | Solar Energy Technologies Office Funding |
| FOA Title | Opportunity Announcement |
| | Presidential Request = \$2M FOA |
| | House Mark = FOA will provide up to \$21M |
| • | Senate Mark = FOA will provide up to \$80M |
| DOE Funding Amount and Appropriation Year | Full year CR = FOA will provide up to \$105M |
| Estimated FOA Publication Month/Year | December 2017 |

1. What is the budgetary basis of this FOA?

a. Describe the FOA's alignment with the FY18 Presidential Budget Request (include page numbers).

The FY 2018 Presidential Budget request for the Solar Energy Technologies Office is Volume 3, pages 97-115. With the exception of the workforce training topic, the FOA is directly aligned with the R&D priorities stated in the request on pages 97-108 and summarized by the first paragraph on page 97:

"EERE's Solar Energy Program funds early stage research and development (R&D) to build the knowledge base upon which industry can achieve dramatic reductions in the cost of solar electricity and address challenges related to integrating high penetrations of solar energy into the nation's electricity grid... The Solar Energy Program embraces two complementary technology approaches; direct conversion of solar photons to electricity by a semiconductor

□ None

(i.e., photovoltaics - PV) and conversion of photons to thermal energy that may be stored before it is used to generate electricity (i.e., concentrating solar power-CSP), while also advancing the state of knowledge on grid integration of solar generation. These approaches and objectives will invigorate American technological leadership in solar energy, diversify the Nation's electricity supply, enhance grid resiliency and reliability, catalyze domestic economic growth, and reduce the air and water impacts of electricity generation."

At the request level, this FOA will fund only the FOA proposed in the request on p. 106: "FY 2018 funding will also support a \$2M competitive solicitation aimed at developing innovative microgrid concepts with the greatest potential to improve resiliency and cybersecurity, while increasing consumer power supply choices. Current work at the National Laboratories is focused on developing the proper metrics to use in this funding opportunity announcement. The solicitation will focus on early-stage research and development of models for cooperative control technologies for advanced microgrid structures."

The workforce training topic was not included in the President's request as it was not a priority for funding at that level. It is, however, aligned with recent Administration priorities for STEM training and addresses the Senate direction to fund the Solar Ready Vets program.

| Which of the following is applicable to the FOA? |
|--|
| ☐ Statutorily Directed |
| ☑ Congressionally Directed (report language provides specific direction for FOA or topic area) |
| ☑ Congressionally Directed (report language provides general direction relevant to FOA) |
| |

c. If statutorily or congressionally directed, include the statutory or report language verbatim and citation. (Consult with Legal Counsel, Legislative Affairs, and Budget Office as necessary).

Applicable FY18 House Report Language:

• The Committee encourages the Department to research high efficiency thin-film photovoltaics and processes for high-speed, low-cost processing to produce stable materials on flexible substrates that can be used in residential and commercial power and be integrated into buildings, vehicles, and food production. Research programs are encouraged to include cooperation between industry and academia and to include advanced optical characterization that enables development of strong correlations between materials, cell optical properties, and the photovoltaic power performance of the working solar cells.

Applicable FY18 Senate Report Language:

The Committee recommends \$48,000,000 for Photovoltaic Research and Development.
 Research programs for high efficiency thin-film photovoltaics and processes are encouraged to include cooperation between industry and academia, and to include advanced optical characterization that enables development of strong correlations

between materials and cell optical properties, and the photovoltaic power performance of the working solar cells.

- The Committee recommends \$10,500,000 for Balance of System Soft Cost Reduction
- Within available funds, the Committee recommends \$48,000,000 for Concentrating Solal Power research, development, and demonstration of technologies that reduce overall system costs, better integrate subsystem components, develop higher-temperature receivers, and improve the design of solar collection and thermal energy storage. Within this amount \$12,000,000 is recommended for competitively selected projects focused or advanced thermal desalination techniques.
- The Committee recommends \$45,000,000 for Systems Integration.
- The Committee recommends \$16,000,000 for Innovations in Manufacturing Competitiveness.
- The Committee recognizes that solar energy is one of the fastest growing industries in the United States, and employs over 260,000 workers today. Within available funds, the Committee recommends \$1,000,000 for the Secretary's contribution to the joint Solar Ready Vets program within the Department of Defense as a way to train America's veterans to fill this growing skill need.

Applicable FY17 Senate Report Language (not contravened by the Omnibus):

 Within available funds, \$1,000,000 for the Secretary's contribution to the joint Solar Ready Vets program with the Department of Defense.

| Which DOE crosscutting priorities does this FOA address? Check all that appl | | | | Check all that apply. |
|--|--|--------------------|------------------|-----------------------|
| | ☐ Critical Materials | ☑ Grid Reliability | STEM Training | ☐ Energy-Water Nexus |
| | | ☐ Transportation | ☑ Energy Storage | ☐ Other (write in): |
| | Please explain. Note, if a similar or recurring FOA has been issued previously, list which fiscal years and explain what changes have been made to this FOA to align with Administration priorities. | | | |

3. What strategic goals and additional priorities does this FOA address?

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- Why was the FOA vehicle selected over alternative options (as opposed to lab projects or other means)?
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- Topic 1: Adaptive Local Grids and Advanced Systems Integration Technologies (20% cost share, TRL 2-5)
 - o Topic 1.1 Adaptive Local Grids
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 - Topic 2.1 Small Innovative Projects in Solar (SIPS): CSP
- Topic 3: Photovoltaics Research and Development
 - Topic 3.1 Small Innovative Projects in Solar (SIPS): PV

- Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives
 - o Topic 4.1 Increasing Inclusion in the Solar Workforce
 - o Topic 4.2 Digital Adaptation in Power Systems through Workforce Initiatives

At the President's request, the topic would be:

Topic 1.1 Adaptive Local Grids

5. FOA Summary

The table below describes SETO's plans for FOA topics depending on which funding scenario is provided. The cells are structured to show:

- 1. The expected total amount of funding allocated for the subtopic
 - a. Note: The actual funding numbers per subtopic may be somewhat higher or lower depending on the number and quality of applications within each subtopic
- 2. The average expected amount for an individual award within that subtopic
 - a. Note: Individual award amounts may be somewhat higher or lower than the expected amount depending on the scope of the project
- 3. The expected award duration for a project within that subtopic
 - a. Note: Depending on the scope of the proposed project, some projects may have shorter durations, and in rare cases, longer durations
- 4. The expected number of awards that could be made for the subtopic
 - a. Note: The actual number of awards per subtopic will depend on the number and quality of applications within each subtopic

All funds are FY18 dollars except for \$1M of FY17 funding in Topic 4.1.

| All funds are FF18 dollars except for \$110 of F117 funding in Topic 4.2. | | | | | | |
|--|--|------------------------|--|---|---|--|
| | Totale Title | Request | House Mark | Senate Mark | Full Year CR | |
| | Topic Title | (\$2M) | (\$21M) | (\$80M) | (\$105M) | |
| TOPIC 1: Adaptive Local Grids, Advanced Systems Integration Technologies (20% cost share, TRL 2-5) | | | | | | |
| Topic 1.1 | Adaptive Local Grids | ~\$2M ~\$400k/award | ~\$9M ~\$3M/award | ~\$18M ~\$4.5M/award | ~\$18M ~\$4,5M/award | |
| | | ~2 years | ~3 years | ~3 years | ~3 years | |
| | | ~5 awards | ~3 awards | ~4 awards | ~4 awards | |
| Topic 1.2 | Solar Observability | X | X | ~\$12M ~\$3M/award | ~\$18M ~\$3M/award | |
| Topic 1.3 | Solar + X | Х | Х | ~3 years ~4 awards | ~3 years ~4 awards | |
| Topic 1.4 | Innovative Pathways: Systems Integration | x | х | ~\$1M ~\$1M/award ~3 years ~1 awards | ~\$2M ~\$1M/award ~3 years ~2 awards | |
| Topic 2: Concentrating Solar Power Research and Development (20% cost share, TRL 2-5) | | | | | | |
| Topic 2.1 | Small Innovative Projects in Solar (SIPS): Concentrating Solar Power | × | ~\$4M total ~\$300k/award ~1.5 years | ~\$4M total ~\$300k/award ~1.5 years | ~\$5M ~\$300k/award ~1.5 years | |

| | | | ~13 awards | ~13 awards | ~17 awards |
|-------------|--|---------------|-----------------------------------|---|---|
| Topic 2.2 | Advanced CSP Collectors | | | | |
| Topic 2.3 | Advanced Power Cycles for CSP | | | ~\$26M ~\$2M/award | ~\$34M total ~\$2M/award |
| Topic 2.4 | Advanced CSP Thermal | . · X | Х | ~3 years | ~3 years |
| 10ptc 2.4 | Transport System and Components | | | ~13 awards | ~17 awards |
| Topic 2.5 | Innovative Pathways: | | ~\$1M | ~\$1M | ~\$1M |
| | Concentrating Solar Power | x | ~\$1M/award | ~\$1M/award | ~\$1M/award |
| | | n | ~3 years | ~3 years | ~3 years ~1 award |
| | | | ~1 award | ~1 award | |
| | Topic 3: Photovoltaics P | tesearch and | | | _ 2-5} |
| Topic 3.1 | Small Innovative Projects | | ~\$2M | ~\$2M | ~\$2M |
| • | in Solar (SIPS): | × | ~\$200k/award | ~\$200k/award | ~\$200k/award |
| | Photovoltaics | ^ | ~1.5 years | ~1.5 years | ~1.5 years |
| | | | ~10 awards | ~10 awards | ~10 awards |
| Topic 3,2 | increasing Affordability, Reliability, and Manufacturability of PV Cells, Modules, and Systems | × | × | ~\$6M ~\$1.5M/award ~3 years ~4 awards | ~\$15M ~\$1.5M/award ~3 years ~10 awards |
| Topic 3.3 | Collaborative Cross- Cutting PV Research | | | | |
| Topic 3.4 | Innovative Pathways: Photovoltaics | х | Х | ~\$2M ~\$1M/award ~3 years ~2 awards | \$2M ~\$1M/award ~3 years ~2 awards |
| Т | opic 4: Improving and Exp | oanding the | Solar Industry thr | ough Workforce li | nitiatives |
| | | ost share, Ec | ucation and Outr | eacn) | 1 401.00 |
| Topic 4.1 | Increasing Inclusion in the Solar Workforce | Х | ~\$2M* ~\$1M/award ~3 years | ~\$2M* ~\$1M/award ~3 years | ~\$2M* ~\$1M/award ~3 years |
| | } | 1 | ~2 awards | ~2 awards | ~2 awards |
| Topic 4.2 | Digital Adaptation In | 1 | ~\$2M | ~\$6M | ~\$6M |
| (Chia. 117 | Power Systems through | rough X | ~\$1M/award | ~\$3M/award | ~\$3M/award |
| | Workforce Initiatives | | ~5 years | ~5 years | ~5 years |
| | Troision or intermed | 1 | ~2 awards | ~2 awards | ~2 awards |

^{*} Includes \$1M of FY17 funding for Solar Ready Vets (Senate mark)

| Explain the rational for choosing the proposed TRL and | , if applicable, | how this TRI | L supports early |
|--|------------------|--------------|------------------|
| stage research: | | | |

The TRL level will be between 2-5. SETO works in coordination with the Office of Science, which primarily focuses on TRL 1 work. Development through TRL 4-5 is necessary in order to ensure relevance of the early-stage technologies and to allow for validation testing that provides critical feedback to the research cycle.

| 6. | Which award vehicle wi | ll be used? |
|----|------------------------|-------------|
| | Cooperative Agreements | Grants |

| 7. | Will this FOA restrict eligib | ility to certain types of applicants? | | | | |
|---|--|--|--|--|--|--|
| | □No | 🔀 Yes, describe: | | | | |
| | recipients. This is to minimize of | aboratories cannot be prime recipients; they can be sub oportunities for redundancy with FY18 AOP work and to laboratories on future funding levels. | | | | |
| 8. | Does this FOA overlap with DOE Offices, or EERE Office | n work performed by other Government agencies, es? | | | | |
| ☑ No ☐ Yes, describe how the effort will be coordinated: | | | | | | |
| | | gs and participation in the review process with the Office of way to ensure no overlap in work. | | | | |
| 9. | FOA Development and Sta | | | | | |
| | stakeholders (e.g., public works | for the FOA engage with industry and other external hops, RFI, industry input, etc.) to determine if this is the right high-impact problem to solve? | | | | |
| | SETO has been pursuing an update of its MYPP over the last year and a half, beginning with a 2030 goal workshop and with 6 subsequent topical workshops. In addition, SETO has issued 4 recent Requests for Information (RFIs) as part of its 2017 strategic planning (i.e., Photovoltaics (PV) Innovation Roadmap RFI, the Grid Engineering for Accelerated Renewable Energy Deployment 2 RFI, Generation 3 CSP Systems RFI and the Solar Energy Technology Analysis & Data Needs RFI). SETO staff also continually monitor industry reports (e.g. GTM/SEIA Solar Market Insight, 2017 U.S. Solar Industry Diversity Study) and engage with stakeholders at major gatherings such as the Photovoltaics Specialists Conference, the Solar Power And Chemical Energy Systems Conference, DistribuTECH, and Solar Power International. | | | | | |
| 10 | .Estimated Schedule | | | | | |
| | FOA Publication Month/Year: | December 2017 | | | | |
| | Selection Month/Year: Award Month/Year: | May 2018 September 2018 | | | | |
| | APPROVAL of EERE Technology Office Director | | | | | |
| ****** | gnature Inted Name | Date | | | | |

Rodriguez, Susan (CONTR)

From:

Hamos, Ian

Sent:

Monday, October 01, 2018 3:34 PM

To:

Jones-Albertus, Becca

Subject:

RE: SETO FY18 FOA Signed FRD

Excellent, thank youl

lan Hamos Chief of Staff Office of the DAS for Renewable Power U.S. Department of Energy 1000 Independence Ave. SW Washington, DC, 20585

----Original Message-----From: Jones-Albertus, Becca

Sent: Monday, October 01, 2018 6:33 PM To: Hamos, lan <lan.Hamos@EE.doe.gov> Subject: FW: SETO FY18 FOA Signed FRD

Nov 20, 2017: Daniel (PDAS) briefed and approved FRD, and FRD submitted to EERE queue for MA.

So both dates I owe you are the same - Nov. 20. I haven't been able to track down the email where Alex sent the edits to the FOA language itself but will send that over if I can get it from someone else.

Becca

----Original Message----From: Jones-Albertus, Becca

Sent: Monday, November 20, 2017 5:51 PM

To: Fitzsimmons, Alexander <Alexander.Fitzsimmons@ee.doe.gov>

Cc: Gay, Charlie <Charlie.Gay@EE.DOE.Gov>; Unruh, Timothy <Timothy.Unruh@EE.Doe.Gov>; Garson, Jennifer

<le>lennifer.Garson@EE.doe.gov>

Subject: FW: SETO FY18 FOA Signed FRD

Hi Alex,

Thanks for the meeting and discussion on the proposed FY18 SETO FOA earlier today. As follow up, we took the next step outlined in the FRD and sent our FRD Part 1 to Kara to put in the queue for MA review. The FRD Part 1 is attached for your reference. Please let us know at any point if there's anything else we can provide to be helpful, particularly given the complexity of our FRD with the 4 budget scenarios included.

Thank you, Becca

----Original Message-----From: Kane, Victor Sent: Monday, November 20, 2017 4:23 PM

To: Peralta, Kara Houston < Kara Houston. Peralta @ee. doe.gov>

Cc: Jones-Albertus, Becca <Becca.Jones-Albertus@ee.doe.gov>; Gay, Charlie <Charlie.Gay@EE.DOE.Gov>

Subject: SETO FY18 FOA Signed FRD

Hi Kara,

SETO has completed the FRD part 1 document for the 'SETO FY18 FOA.' The keys steps on the new FRD process mention I (the FOA manager) should send you a copy. I have attached the signed copy as well as the ,docx version incase that is helpful.

Please let me know if there is any other information I should provide.

Best,

Victor

Rodriguez, Susan (CONTR)

From:

Jones-Albertus, Becca

Sent:

Monday, October 01, 2018 3:45 PM

To:

Kane, Victor; Fricker, Kyle

Cc:

Nilsen, Garrett

Subject:

FY18 FOA language edits from Alex

Hi Victor and Kyle,

Would either of you be able to find the email from Alex Fitzsimmons with the final edits to the FY18 FOA and his approval to release it? Or if you have the date or approximate date that he sent that, that would also be helpful. If you happen to be online tonight and it's easy to pull this, that would be great. (If it's not easy to get, then whenever you can find it, it will be good to have for reference.) We wanted to include it as part of the internal timeline of the FOA that DAS-RP needs.

Thanks!

Becca

Rodriguez, Susan (CONTR)

From:

Fricker, Kyle

Sent:

Monday, October 01, 2018 4:45 PM

To:

Jones-Albertus, Becca; Nilsen, Garrett; Kane, Victor

Subject:

FW: Final FY18 FOA for posting

Attachments:

SETO FY18 FOA 1840 - Final.docx

Importance:

High

I didn't find anything very helpful, but it's possible one of the folks on this chain had it. Victor's doc merge shows the changes I remember though.

-Kyle

From: Mikrut, Jeremey

Sent: Tuesday, April 10, 2018 4:21 PM

To: Bobo, Diana < Diana. Bobo@ee.doe.gov>; Pfrangle, Clay < Clay. Pfrangle@EE. Doe. Gov>

Cc: Kane, Victor < Victor.Kane@EE.Doe.Gov>; Wilson, Sara < Sara.Wilson@ee.doe.gov>; Nilsen, Garrett <Garrett.Nilsen@ee.doe.gov>; Murley, Susanna (CONTR) <Susanna.Murley@EE.DOE.Gov>; Fricker, Kyle

<Kyle.Fricker@EE.DOE.Gov>

Subject: Final FY18 FOA for posting

Importance: High

Hi Diana and Clay,

Attached is the Final FOA that can be uploaded in STRIPES and posted on Exchange on Monday once we get the greenlight clearance. Let me know if you have any questions.

Thank you, Jeremey

Jeremey Mikrut Technical Project Officer Solar Energy Technologies Office Golden, Colorado Phone: 240-562-1289



Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE)

Solar Energy Technologies Office (SETO) FY2018 Funding Opportunity Announcement (FOA)

FOA Number: DE-FOA-0001840, FOA Type: Initial

| FOA issue Date: | (b) (5) |
|--|--|
| Submission Deadline for Letter of Intent (LOI): | May 4 th , 2018, 3:00pm ET |
| Informational Webinar: Visit EERE exchange FOA description for details retiming and registration | garding webinar |
| Submission Deadline for Concept Papers: | May 9th, 2018, |
| Applicants must submit a Concept Paper by 3:00pm ET on the due date listed above to be eligible to submit a Full Application. Topic Areas 2.1 and 3.1 SIPS applications must resubmit their LOI again as a concept paper by the concept paper deadline above to clear an administrative software restriction of EERE Exchange. | 3:00pm ET |
| Submission Deadline for Full Applications and SIPS Applications: | ¯(b) (5) |
| Expected Submission Deadline for Replies to Reviewer Comments: | August 2 nd , 201: 3:00pm ET |
| Expected Timeframe for EERE Selection Notifications: | (b) (5) |

What is this Document?

This Funding Opportunity Announcement (FOA) is an instructional document that is meant to provide potential applicants with all of the information needed to construct a compliant, and potentially successful, application. It describes SETO, the goals of this FOA, the application process, and various program details. Each step in the application process is discussed to help potential applicants understand the requirements for submitting a compliant application. This document tells potential applicants what types of projects are eligible for funding and how to construct the application. Deviating from the FOA instructions will likely result in a non-compliant, and therefore ineligible, application. This document contains the answers to many commonly asked questions. Reading the document in full should answer the majority of the questions potential applicants may have.

- To apply to this FOA, applicants must register with and submit application materials through EERE Exchange at https://eere-Exchange.energy.gov, EERE's online application portal.
- Applicants must designate primary and backup points-of-contact in EERE Exchange with whom EERE will communicate to conduct application, review and award negotiations. If an application



is selected for award negotiations, it is not a commitment to issue an award. It is imperative that the applicant/selectee be responsive during award negotiations and meet negotiation deadlines. Failure to do so may result in cancelation of further award negotiations and rescission of the Selection.

Table of Contents

| i. | Funding Opportunity Description | 1 |
|------|--|----|
| Α. | Description/Background | 1 |
| 8. | | 3 |
| C. | | |
| D | | 0E |
| | _ | |
| li. | Award Information | 3U |
| A. | Award Overview | 30 |
| | i. Estimated Funding | 30 |
| | ii. Period of Performance | 32 |
| | III. New Applications Only | 32 |
| В, | | 32 |
| | i. Cooperative Agreements | 32 |
| | li. Funding Agreements with FFRDCs | 33 |
| | iii. Grants | 33 |
| | iv. Technology Investment Agreements | 33 |
| cut | Eligibility Information | 34 |
| III. | - / | |
| Α | | |
| | i. Individuals | |
| | ii. Domestic Entities | |
| | iii. Foreign Entitles | 35 |
| | iv. Incorporated Consortia | 36 |
| | v. Unincorporated Consortia | |
| 8 | | 37 |
| | i. Legal Responsibility | |
| | ii. Cost Share Allocation | |
| | ili. Cost Share Types and Allowability | |
| | IV. Cost Share Contributions by FFRDCs | |
| | v. Cost Share Verification | |
| | vi. Cost Share Payment | |
| C | | |
| | i. Compliance Criteria | |
| D | | 4: |
| E | | 43 |
| | i. Requirements for DOE/NNSA and non-DOE/NNSA Federally Funded Research and Development | |
| _ | Centers included as a Subrecipient | |
| F | | |
| G | Questions Regarding Eligibility | 4: |
| ١٧. | Application and Submission Information | 45 |
| | . Application Process | 40 |
| Α | ,, | |
| | | |
| В | | |
| | | |
| C | | |
| | and the state of t | |
| | ii. Concept Paper and SIPS Applications Content Requirements | 5 |
| E | | 5/ |

| | í. | Full Application Content Requirements | 54 |
|-----|-----------|--|--------|
| | ii. | Technical Volume | |
| | III. | SF-424: Application for Federal Assistance | |
| | i٧٠ | Summary Slide | |
| | ٧. | Budget for DOE/NNSA FFRDC (if applicable) | |
| | vi. | Authorization for non-DOE/NNSA or DOE/NNSA FFRDCs (if applicable) | 63 |
| | vii. | | 63 |
| | viii. | | 04 |
| | F. | Content and Form of Replies to Reviewer Comments | 65 |
| | | Statement of Project Objectives | 05 |
| | l. | Budget Justification Workbook (EERE 335) | 65 |
| | ii. | | 88 |
| | III. | | 66 |
| | įv. | Budget for FFRDC (if applicable) | 66 |
| | ٧، ٧i، | | |
| | vii. | | |
| | | Post-Award Information Requests | 68 |
| | l. | Dun & Bradstreet Universal Numbering System Number and System for Award Management | 68 |
| | | Submission Dates and Times | |
| | | Intergovernmental Review | |
| | | Funding Restrictions | |
| | ١. | Allowable Costs | 69 |
| | ii. | Pre-Award Costs | 70 |
| | iii. | | |
| | lv. | Performance of Work in the United States | 71 |
| | ٧. | | |
| | vI. | | |
| | vii. | | |
| | viii | | |
| | ix. | | |
| | χ. | Invoice Review and Approval | 74 |
| ı. | Αp | oplication Review Information | 74 |
| | | Technical Review Criteria | |
| | A. İ. | Concept Papers | 74 |
| | i. Ii. | Full Applications | 74 |
| | III. | | 76 |
| | | Standards for Application Evaluation | 76 |
| | C. | Other Selection Factors | 76 |
| | L. | Program Policy Factors | 76 |
| | D. " | Evaluation and Selection Process | 77 |
| | i. | Overview | |
| | ï. | | |
| | m. | | |
| | iv. | | 79 |
| | · v. | Selection | 79 |
| | Ε | Anticipated Notice of Selection and Award Dates | 79 |
| Л | | ward Administration Information | |
| J i | , AV | | |
| | A. | Award Notices | |
| | i. | Ineligible Submissions | 80 |
| | 4.0 | 5 | 44.6 |

| | | |
|-----------|---|-----|
| lii. | Full Application Notifications | |
| īv. | Successful Applicants | |
| V. | Alternate Selection Determinations | |
| vi. | Unsuccessful Applicants | |
| | Administrative and National Policy Requirements | |
| i. | Registration Requirements | |
| ti. | Award Administrative Requirements | |
| 111. | Foreign National Access to DOE Sites | 84 |
| iγ, | Subaward and Executive Reporting | |
| ٧. | National Policy Requirements | 84 |
| Ví. | | |
| vii. | | |
| vili | Statement of Substantial Involvement | |
| ix. | Subject Invention Utilization Reporting | |
| x. xi. | Intellectual Property Provisions | |
| XII. | · | |
| xili | · | |
| xiv | | |
| XV. | | |
| | - | |
| VII. Qı | estions/Agency Contacts | 90 |
| VIII. Ot | her Information | 90 |
| Α. | FOA Modifications | 90 |
| В. | Informational Webinar | |
| C. | Government Right to Reject or Negotiate | |
| D. | Commitment of Public Funds | |
| E. | Treatment of Application Information | |
| F. | Evaluation and Administration by Non-Federal Personnel | |
| G. | Notice Regarding Eligible/Ineligible Activities | 92 |
| н. | Notice of Right to Conduct a Review of Financial Capability | |
| ١. | Notice of Potential Disclosure Under Freedom of Information Act (FOIA) | |
| 1. | Requirement for Full and Complete Disclosure | |
| K. | Retention of Submissions | |
| L. | Title to Subject Inventions | |
| M. | Government Rights in Subject Inventions | |
| i. | Government Use License | |
| II. | March-in Rights | |
| N. | Rights in Technical Data | 95 |
| O. | Copyright | 96 |
| P. | Personally Identifiable Information (PII) | |
| Q. | Annual Independent Audits | |
| Append | x A – Cost Share Information | 98 |
| Append | ix B – Sample Cost Share Calculation for Blended Cost Share Percentage | 103 |
| | x C-Walver Requests: Foreign Entity Participation as the Prime Recipient and Performance of Wor | |
| Append | ed Stateseduests: Poreign Entity Participation as the Prime Recipient and Performance of World | 105 |
| | | |
| 1. | Waiver for Foreign Entity Participation as the Prime Recipient | 105 |
| 2. | Walver for Performance of Work in the United States | 105 |
| Append | ix D - Data Management Plan | 107 |
| | | |

Funding Opportunity Description

A. Description/Background

This Funding Opportunity Announcement (FOA) is being issued by the U.S. Department of Energy's (DOE), Office of Energy Efficiency and Renewable Energy (EERE), Solar Energy Technologies Office (SETO). This section describes the overall goals of SETO and the type of projects that are being solicited for funding support through this FOA.

In 2016, solar power surpassed 1% of annual electricity supply in the United States for the first time, and the Energy Information Administration projects that solar will grow to 5% of U.S. electricity by 2030.¹ Further, if the price of solar electricity and/or energy storage declines more rapidly than projected, that percentage could be even higher.² But solar is more than just a source of affordable electricity; it also provides the potential to improve grid reliability and resilience, increase employment,³ create business opportunities, increase energy diversity, and provide environmental benefits.

The mission of the Solar Energy Technologies Office (SETO) is to support early-stage research and development to improve the performance and flexibility of solar technologies that contribute to a reliable and resilient U.S. electric grid. The office invests in innovative research efforts that securely integrate more solar energy into the grid, enhance the use, storage and dispatch of solar energy, and lower solar electricity costs.

SETO focuses on two different solar energy technologies: photovoltaic (PV) technologies that directly convert sunlight into electricity, typically via a semiconductor, and concentrating solar thermal power (CSP) technologies that convert sunlight to heat, which can be converted or stored until needed, and then used to generate electricity or provide other energy services. Because sunshine varies with the time of day, location, and season, solar power systems must be paired with adaptive loads, other sources of power, or energy storage to deliver electricity whenever it's needed. This dependency reduces the value of solar power systems once solar starts to supply a significant fraction of the electricity within a

¹ U.S. Department of Energy, Energy Information Administration, International Energy Outlook 2017, DOE/EIA-0484 (2017).

P.A. Basore and W.J. Cole, "Comparing supply and demand models for future photovoltaic power generation in the USA," submitted to Progress in Photovoltaics: Research and Applications, 2017.

³ The Solar Foundation, National Solar Jobs Census, 2010 - 2016.

given region and highlights the need for a focus on addressing grid integration challenges.

SETO, in partnership with other offices at DOE, launched the SunShot Initiative in February 2011 with the goal of solar electricity becoming price-competitive with conventional utility sources by 2020.4 The SunShot 2020 goal has already been achieved for utility-scale PV, and with continued effort, it is likely to be achieved for grid-tied solar applications. As a result of this tremendous progress and in response to the growing deployment of solar in the U.S., SETO is increasing its focus on addressing the challenges related to seamlessly integrating high penetrations of solar energy onto the nation's electricity grid. Additionally, SETO set 2030 cost targets to further reduce the cost of solar electricity across all market sectors, which would make solar one of the most affordable sources of electricity and enable a substantial fraction of U.S. electricity demand to be supplied by solar technology.5 The targets for the unsubsidized cost of electricity at the point of grid connection in a location with average U.S. solar resources are 3¢ per kilowatt-hour (kWh) for utility-scale photovoltaics, 4¢ per kWh for commercial rooftop photovoltaics, 5¢ per kWh for residential rooftop photovoltaics, and 5¢ per kWh for concentrating solar power with thermal energy storage.

By supporting early-stage research across the solar energy technology space through this FOA, SETO can foster innovation and enable integrated multi-technology solutions that can advance the widespread adoption of solar power while securely integrating it into the nation's energy grid.

Topic 1: Advanced Solar Systems Integration Technologies describes SETO research priorities in the seamless integration of high penetrations of solar energy onto the nation's electricity grid. Responsive projects would advance the prediction, monitoring, and control of solar power production, the capabilities of solar power electronics and the integration of solar energy with synergistic technologies.

Topic 2: Concentrating Solar Thermal Power Research and Development describes SETO research priorities that support solar technologies that focus sunlight to generate and store high-temperature heat for electricity generation and other end uses. Responsive projects would contribute to increasing solar power adoption and grid reliability often through combined power and storage.

⁴ SunShot Vision Study, NREL Technical Report DOE/GO-102012-3037, 2012.

⁵ U.S. Dept, of Energy, The SunShot Initiative's 2030 Goal: 3¢ per Kilowatt Hour for Solar Electricity, 2016.

Topic 3: Photovoltaic Research and Development describes SETO research priorities that support the further development of photovoltaic technologies that improve system reliability, annual energy yield, demonstrate performance of novel PV devices and develop new PV materials. Responsive projects would directly contribute to increasing PV affordability through continuous improvements in PV efficiency and reliability. SETO's work ensures that a pipeline of innovation continues to reduce PV system cost, increase power conversion efficiency, and reduce supplychain capital expense.

Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives describes SETO research priorities that support solar workforce development. Responsive projects would focus on increasing the size of the pipeline of skilled workers being employed by the solar industry while simultaneously working to increase the participation of veterans and other talent pools, providing increased value to the solar industry as a whole.

SETO's funding supports U.S. leadership in solar technology R&D by funding the next generation of innovative technologies and by developing domestic research talent.

Historically, SETO has released separate funding opportunities that address specific stages and types of solar research. For the first time, this funding program combines SETO funding efforts into one FOA for fiscal year 2018 (FY2018). Subject to availability of funds appropriated by Congress for the purpose of this program, the availability of future-year budget authority, and approval, SETO intends to adjust topic descriptions and reopen this funding program for new applications each year relatively soon after budget guidance has been provided. By providing a more streamlined and consistent FOA strategy SETO hopes to further accelerate the advancement of solar research.

B. Topic Areas / Technical Areas of Interest

This section describes technical areas of interest for this funding opportunity in more detail. Applicants can apply to any of the topic areas below based on the scope and duration of the proposed project. Individual applications should be submitted for each topic. This solicitation intends to support research and development that advances scientific understanding. Therefore, applicants should budget and plan to disseminate any findings in peer-reviewed publications, presentations, and patents as applicable.

Topic 1 Advanced Solar Systems Integration Technologies

The Systems Integration (Si) subprogram supports early-stage research and development that advances the reliable, resilient, secure and affordable integration of solar energy onto the U.S.

Questions about this FOA? Email <u>SETO.FOA@ee.doe.gov</u>.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@hg.doe.gov</u>
Include FOA name and number in subject line.

electric grid. For more in-depth discussion of solar grid integration, please visit "Solar Grid Integration" https://energy.gov/eere/solar/downloads/technical-background-2018-seto-funding-opportunity-announcement.

In 2011, solar power comprised less than 0.1% of the U.S. electricity supply with an installed capacity of just 1.2 gigawatts (GW). Solar now supplies nearly 2% of the annual U.S. electricity demand⁶ with an installed capacity of roughly 47 GWs⁷, and is continuing to grow. According to U.S. Energy Information Administration (EIA), in some states and regions, solar represents up to 15% of total annual electricity generation. Instantaneous solar generation can reach a much higher level, more than 40% in some cases.⁸

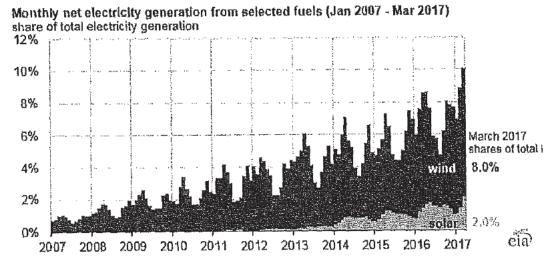


Figure 1: For the first time, in March 2017 solar supplied 2% of the U.S. electricity demand, while wind and solar combined accounted for 10% of the U.S. electricity generation. (Source: EIA)

As the penetration of solar energy on the grid continues to increase, it becomes imperative to identify the associated technical, economic and regulatory challenges, and to develop impactful solutions in order to ensure compatibility with the existing grid and a smooth transition to a secure, reliable and resilient grid of the future.

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⁶ U.S. Energy Information Administration (EIA), Electric Power Monthly with Data for November 2017, published in January 2018. https://www.eia.gov/electricity/monthly/current_month/epm.pdf

Source: Solar Energy Industries Association (SEIA), http://www.seia.org/

⁸ For example, in the California Independent System Operator (CAISO) Monthly Renewables Performance Report, the 5-minute market data shows that at the maximum solar served almost 45% of the load in September 2017. See http://www.caiso.com/Documents/MonthlyRenewablesPerformanceReport-Nov2017.html

Traditional grid architecture was based on large-scale centralized generation remotely located from consumers, hierarchical control structures with minimal feedback, limited renewable generation such as wind and solar, limited energy storage and passive loads. A modern grid must be reliable, resilient and secure. It must have the ability to dynamically optimize grid operations and resources, rapidly detect and mitigate disturbances, engage millions if not billions more intelligent devices, integrate diverse generation sources (including both conventional and renewable types), integrate demand response and energy efficiency resources, enable customers to manage their electricity use and participate in markets, and provide strong protection against physical and cyber risks.

The current business-as-usual trajectory for the electric industry will not result in a timely transition to a modernized grid⁹. Since large investments in the past and today in the nation's electric grid infrastructure will remain in service for decades, it is important that the U.S. make smart decisions to invest in enabling and forward-looking technologies that will support the creation of a modern grid infrastructure in the coming years. There is a critical need to foster innovations and new technology adoptions by decreasing regulatory, market and business model uncertainties, demonstrating technology maturity and reducing implementation risks.

The Department of Energy's Grid Modernization Initiative¹⁰, is a cross-cutting effort that aligns grid modernization efforts across the multiple DOE Program Offices. As part of the Grid Modernization Initiative (GMI), the SI subprogram supports targeted technology research and development (R&D) that addresses the technical challenges with achieving higher solar penetration, while supporting a safe, reliable, secure and cost-effective electric power system.

More broadly, the Grid Modernization Initiative focuses on the development of holistic solutions for the grid of the future. Several key technology areas have been identified in the Grid Modernization Multi-Year Program Plan (MYPP)¹¹:

- Devices and Integrated Systems Testing;
- Sensing and Measurements;
- Systems Operations, Power Flow and Control;
- Design and Planning Tools;
- Security and Resilience; and
- Institutional Support.

Department of Energy Grid Modernization Multiyear Program Plan (MYPP)

Accessed 01 November 2017, https://energy.gov/under-secretary-science-and-energy/grid-modernization-initiative

Department of Energy Grid Modernization Multilyear Program Plan (MYPP), Accessed 01 November 2017, https://energy.gov/downloads/grid-modernization-multi-year-program-plan-mypp

Progress in all of these areas is considered crucial for the effective grid Integration of solar energy and modernization of the grid, as illustrated in Figure 2. A specific focus of the SETO Systems Integration subprogram includes understanding the impacts of increasing penetration of solar energy on grid reliability and power quality, developing best practices for interconnecting and integrating solar with energy storage and synergistic technologies, addressing the variability of solar generation, researching power electronic technologies for flexible power flow control, enhancing situational awareness of solar generation at the grid edge and informing the standardization of interconnection, interoperability, and cybersecurity for PV and other distributed energy resources (DER) systems. Taking these all together, the goal is to advance the knowledge-base and the ability to integrate solar generation, at scale, into electric transmission and distribution systems in a cost-effective, secure, and reliable manner.

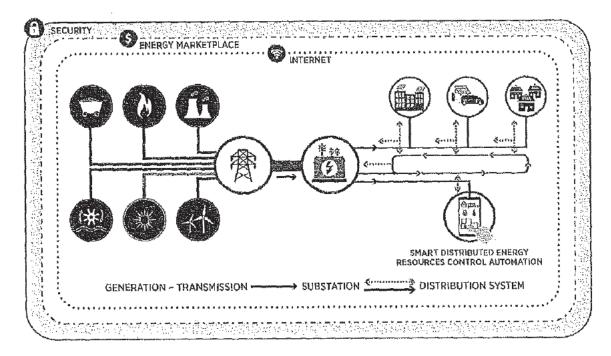


Figure 2: Illustration of high level solar penetration in a modernized electricity power system.

In this FOA the SETO Systems Integration subprogram seeks to fund research in the following topic areas:

- Adaptive Solar Grid Integration;
- Solar Observability;
- Solar + X; and
- Innovative Pathways.

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Modernizing the grid also requires a workforce capable of understanding and managing this dynamic and digital environment. For those interested in developing proposals related to training the digital grid workforce of the future, please refer to Topic 4 of this FOA.

Topic 1.1 Adaptive Solar Grid Integration

This topic will support applications to research and field validate innovative technologies that enable distributed solar photovoltaic (PV) to contribute to grid reliability and resilience by providing solar dispatchability and grid-support functions—including energy, capacity, and reliability and resilience services. These technologies can be deployed throughout the electric distribution system. The approaches will focus on developing flexible interconnection requirements and dynamic hosting capacity concepts for solar PV as opposed to today's prevalent "firm" interconnection requirements and static hosting capacity planning. It is expected that the same design concepts will be applicable for energy storage and other distributed energy resources (DERs), Through the intelligent control of the distributed assets, flexible interconnection requirements can increase the overall hosting capacity for solar and DERs in the distribution system, support diverse customer interconnection choices, improve system reliability and resilience, and reduce PV curtailment. Applications must consider diverse DER options (e.g. PV, energy storage, flexible load) available as well as power systems engineering alternatives, and demonstrate the benefits of the proposed technologies in the hosting capacity analysis. It should also be shown in these solutions how a fleet of PV systems from multiple customers at multiple locations will be able to respond to fast changing conditions under normal operations and provide power to critical loads during grid outages with consideration of other DER options and distribution system constraints. Example projects may include, but are not limited to, control hardware and software innovations for smart PV inverters and DER management system (DERMS) that allow more flexibility to interconnection and operation of small scale PV and other DER systems.

Topic 1.2 Solar Observability

This topic will support applications to research, develop and validate observability or situational awareness technologies at the grid edge to support planning and operation with high PV penetration. Primary focus areas include PV-integrated sensor technologies, secure and robust communication, advanced data analytics (including machine learning) and detection of cyber-intrusion. Projects may also be considered with secondary focus areas, which enhance gridedge observability of solar systems by integration with additional planning, operations and business unit systems. All applications should have an assessment of economic viability of the system or component in the application and as part of the project.

Topic 1.3 Solar + X

This topic will support applications to research and field validate innovative approaches to integrate Behind-the-Meter (BTM) solar PV with synergistic technologies (including but not limited to energy storage, building controls, demand response, electric vehicles, and other

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DERs) to support dispatchability and provide grid services – including energy, capacity, and reliability and resilience services – as a single control point. Projects will focus on research and development in control coordination and optimization of BTM customer-owned and co-located behind a single (master) meter: PV, storage, and other DER assets in response to broader system-wide conditions, with key interest in utilizing DER assets to provide critical power during outages. Projects may consider traditional "firm" DER interconnection requirements as well as emerging flexible interconnection approaches (such as those sought in Topic 1.1) and innovative compensation mechanisms. In an effort to minimize the overall system cost for solar integration arising from new hardware deployment, such as battery storage, , applicants are encouraged to consider how solar and load estimation, advanced data analytics, and artificial intelligence can be utilized in the operations of their proposed systems. All Applicants should have an assessment of economic viability of the system or component in the application as part of the project.

Topic 1.4 Innovative Pathways: Systems Integration

This topic will explore innovative approaches and models to accelerate the transfer of systems integration and related technologies from the lab into the real world. Rather than funding research on individual technology solutions directly, applicants will research and develop new methods to advance research portfolios of solar (and related) technologies and overcome challenges endemic to the solar technology transfer space, including knowledge gaps between the research/industrial communities and constraints on access to necessary resources. Applicants must demonstrate a realistic pathway to test, scale and sustain the model after the period of performance. Potential areas of interest include, but are not limited to, models to deploy alternative capital (e.g., local public-private partnerships, foundations) for technology R&D or transfer, structures to incentivize industry-researcher collaboration, approaches to lower barriers such that new entrants can leverage existing facilities, data and build capacity (e.g., dormant manufacturing capacity or underutilized laboratory space), and methods to drive down the cost and accelerate processes around hardware validation and certification.

Topic 2 Concentrating Solar Thermal Power Research and Development

The Concentrating Solar Thermal Power (CSP) research and development (R&D) program supports early-stage research to improve the performance, reduce the cost, and improve the lifetime and reliability of CSP materials, components, subsystems, and integrated concepts. The technical feasibility and low cost of integrating thermal energy storage (TES) with CSP allows for a unique value proposition among renewable energy resources. CSP with thermal energy storage can provide electricity on demand. Most embodiments of CSP utilize traditional turbine based heat engine, similar to over 90% of current US electricity generation. This combination of readily scalable energy storage with proven turbine technology and an adaptable capacity factor (depending on the sizing of the solar collector field and thermal energy storage) can broadly enable reliable renewable electricity production. To achieve a significant, market-driven, deployment of CSP in the US, SETO seeks projects with R&D objectives supporting the

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2030 SunShot targets of 5¢/kWh for a baseload CSP plant (\geq 12 hours of TES) and 10¢/kWh for a peaker CSP plant (\leq 6 hours of TES).

Current state-of-the-art CSP power plants are based on a central 'Power Tower' design that uses molten nitrate salts as both the primary heat transfer fluid (HTF) and a sensible TES material, at a hot fluid temperature of approximately 565 °C. Recent SETO R&D objectives and funding opportunities have focused on the most promising thermal transport systems capable of higher operating temperatures (> 700 °C) for integration with advanced, high-efficiency power cycles, referred to as Generation 3 CSP.12 In addition to lowering solar field costs, integration with high-efficiency, low-cost power cycles is a key mechanism to lower the cost of energy generation from CSP. SETO is currently developing these concepts through the Gen3 CSP Systems Integration Funding Opportunity and Gen3 Lab Support.13 The current SETO FY18 FOA does not seek concepts redundant to topics prioritized in Gen3 CSP initiatives. This distinction is particularly important for applications proposing to address the receiver, HTF, or TES subsystems. Notably, the Gen3 CSP initiative does not attempt to address innovations in power cycles or solar collectors, which are of particular interest in this funding opportunity. Applications that propose innovations in thermal transport systems should seek to investigate innovation outside of Gen3 CSP concepts: concept applies to a different temperature regime; concept supports heat transfer media outside those identified as most promising in the Gen3 CSP roadmap; concept requires a > 5-year research timeframe before it would reach maturity appropriate for integration within a larger system; or concept is compatible with current CSP system architectures, provided that a pathway to the targeted LCOE can be demonstrated.

¹² Mehos, Mark, et al. *Concentrating Solar Power Gen3 Demonstration Roadmap*. No. NREL/TP-5500-67464. NREL (National Renewable Energy Laboratory (NREL), Golden, CO (United States)), 2017.

 $^{^{13}\} https://energy.gov/eere/sunshot/funding-opportunity-announcement-generation-3-concentrating-solar-power-systems-gen3csp$

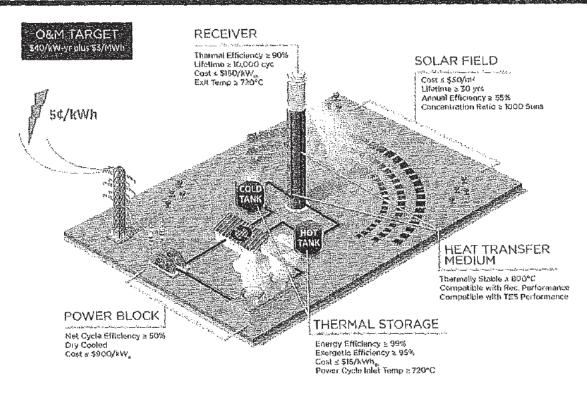


Figure 2 One combination of subsystem metrics compatible with the SunShot 2030 Target

The 5 CSP topics described below solicit innovation ranging from focused fundamental hypothesis testing (2.1), to subsystem specific R&D with prototype development (2.2, 2.3, and 2.4), and to technology transfer (2.5). Applicants to topics 2.2, 2.3 and 2.4, focused on component development must aim to address the following within their proposed scope:

- Research leading to the development of innovative and revolutionary future-generation
 CSP technologies that will have higher efficiency, lower installed cost, lower operating cost and/or improved value relative to existing commercial CSP technologies;
- Results indicating the proposed innovation can meet or exceed the goals set forth by SETO;
- Produce and test a prototype that proves the viability of the technology for future integration into a CSP plant; and
- Include clear system-relevant objectives and partnerships as part of a credible pathway to eventual commercial development and deployment.

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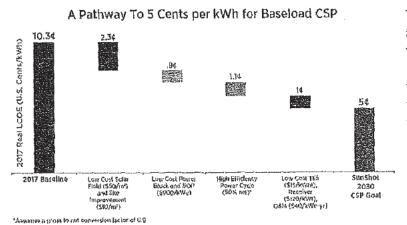


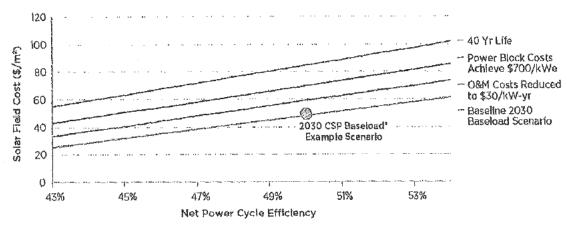
Figure 3: Waterfall chart showing one possible path to achieving an unsubsidized Levelized Cost of Electricity (LCOE) of 5¢/kWh for a concentrating solar power tower plant in the southwestern United States (BOP = Bolance of Plant).

The challenges involved in achieving the SunShot targets for CSP require interdisciplinary solutions throughout a wide variety of fields in science and technology. The emphasis is on technological advances derived from fundamental understanding, rather than Edisonian trial-and-error approaches. There is no single 'CSP challenge' but. rather a series of challenges of heat transfer, fluid mechanics. thermodynamics, optical

physics, materials science, extreme automation in the solar field, corrosion mitigation, advanced manufacturing, thermo-mechanical engineering design, low cost sensors and control, and predictive operations and maintenance, among others. In order to clarify the targets, a self-consistent set of point solutions for each subsystem's efficiency, cost, and lifetime have been generated. These are presented in Figure 2 with the economic impact by area displayed in Figure 3. These goals exemplify only one of many possible combinations of techneconomic metrics that could be employed to build a 5¢/kWh_e CSP plant.

Pathways to Achieving SunShot 2030 Goals

All lines represent 5¢/kWh LCOE in a typical Southwestern U.S. climate



*Baseload power plant is defined as a CSP plant with greater than 12 hours of storage

Figure 4: Area below each curve encompasses a solution space compatible with the 2030 SunShot baseload target of 5¢/kWh. The Baseline 2030 scenario uses the metrics in Figure 2 as Inputs. A broader solution space for solar field cost vs power cycle efficiency could be realized by expanding plant lifetime to 40 years, reducing operation and operation and maintenance (O&M) costs to \$30/kW-yr, or reducing power block cost to \$700/kW. Each line on this figure represents a single change from the baseline scenario. Aggressive achievements significantly exceeding the baseline targets are highly impactful.

It is important to recognize the broad solution space of cost and performance objectives that is compatible with the SunShot targets. Likely solutions will vary as specific innovation occurs in the many technical fields touching CSP. In the topics below, specific subsystem targets are often described to focus objectives and simplify discussion. However, Figure 4 shows how successful improvements to certain aspects of a hypothetical CSP plant could relax the requirements on other areas. While these tradeoffs can (and should) be used to better describe the value of a proposed innovation, applicants should not invoke undefined improvements in areas outside of their proposed R&D as justification for relaxing technical metrics. Alternately, Figure 4 demonstrates how innovations going beyond the SunShot metrics have an increased value proposition. With this in mind, concepts that can achieve cost, efficiency, or other relevant metrics significantly beyond those outlined in Figure 2 have additional value to SETO.

The DOE National Laboratories (http://energy.gov/maps/doe-national-laboratories) provide unique capabilities, such as the National Solar Thermal Test Facility (NSTTF)¹⁴ and development of the System Advisory Model (SAM).¹⁵ As appropriate and needed, applicants may design a statement of project objectives (SOPO) that takes advantage of unique DOE facilities and capabilities. In such cases, justified SOPOs and clear budgets must be developed in consultation

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¹⁴ http://energy.sandia.gov/?page_id=1267

¹⁵ https://sam.nrel.gov/

with the relevant National Laboratory, and the Applications must include a letter of commitment from the concerned National Laboratory, confirming the proposed budget, scope, and availability of the facilities and/or laboratory personnel to complete the proposed work within the proposed project schedule. Note that collaboration with or the use of facilities at a DOE National Laboratory is not a requirement for Application to this FOA; Applications will be evaluated on their own merit as per the criteria set forth in this FOA.

Principal Investigators (PI) and their team funded by SETO are expected to produce high impact outcomes with a view towards commercialization and wide dissemination including pursuit of patents, licensing or other intellectual property protection and publication of the results of their funded research in high-visibility, high-impact-factor, peer-reviewed journals. All outcomes resulting from the funded research will be required to include an acknowledgement that the work was supported by the U.S. Department of Energy, Solar Energy Technologies Office, under the specific award number.

The specific CSP Topic Areas of interest are detailed below.

Topic 2.1 Small Innovative Projects in Solar (SIPS): CSP

This topic area will fund small, focused projects investigating the applicability of emerging thermal or optical manipulation processes, and related material systems, to the CSP application. The limitations to manipulating heat and light (both in terms of feasibility and cost) are core constraints to CSP plant design. Innovations for controlling energy in these forms may create an opportunity for novel solar thermal concepts and enable new types of CSP systems. Such concepts, if successfully proven, should support dramatic progress towards the CSP 2030 levelized cost of electricity (LCOE) goal of 5¢/kWh for baseload or 10¢/kWh for peaking power generation. Applications to this topic should propose projects that seek to prove or disprove a central hypothesis that would disruptively alter the design of CSP plants in such a way as to enable the targeted costs. Applicants must demonstrate an understanding of the major issues impeding the proposed technical approach, and clearly identify the particular barrier(s) that will be the target of the research effort. Along with topics of interest motivated by the above *Background Section*, examples of research areas which could support emerging technologies for the CSP application include but are not limited to:

- Metamaterials, waveguides, index matching optics → New collector tracking paradigm
- Active optics, self-adaptive optics → Reducing sources of collector optical distortion
- High thermal conductivity structural materials

 Novel thermal exchange or transport concepts
- Novel surface plasmon control → New efficiencies and physical embodiments of solar receivers
- Phononic crystals, thermal rectification → Passive thermal transport or control of TES

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High-temperature thin-film insulators with environmental compatibility

Lower peak temperature on piping alloys and components supporting the HTF

This topic area will use an abbreviated application process. In an effort to limit the resources required by applicants to apply for the Small and Innovative Projects in Solar (SIPS) (from Topic 2.1 and 3.1) a simplified application process in described in section IV.D of this document. Following submission of an LOI, there is an expedited concept paper phase for SIPS projects. SIPS projects do not need to submit a concept paper by the deadline listed on the cover paper; Topic Areas 2.1 and 3.1 SIPS applications must instead resubmit their Letter of Intent again as the concept paper and also include a summary slide by the concept paper deadline to bypass an administrative software restriction of EERE Exchange. Full SIPS applications should be submitted by the full application deadline, and all SIPS full applications should complete their submissions using the format provided in section IV.D. Fallure to complete these required process steps will result in an inability to submit a SIPS application for review.

Topic 2.2 Advanced CSP Collectors

This topic will fund research and development of innovations in novel CSP collectors, which direct solar flux to an absorber (receiver), where it is converted to heat., as well as technologies associated with collector installation and operation, The solar collector field is one of the single largest components of the cost of constructing a CSP plant (approximately 25% of the direct capital costs). The component must efficiently concentrate light while minimizing fabrication, installation, and operating costs. Collectors that are able to cost-effectively achieve high concentration ratios can directly improve the efficiency of the receiver. This effect becomes particularly impactful at high receiver temperatures. With these factors in mind, R&D concepts supporting a significant decrease in CSP LCOE and satisfying the below figure of merit (FOM) by accounting for Cost per reflective surface area (in \$/m2), efficiency times 100 (Eff), and concentration ratio (CR) are of primary interest.

$$FOM = \frac{Cost}{Eff + CR/50} < 0.65$$

For example, a heliostat with a cost of $60/m^2$, a 55% annualized optical efficiency, and ability to achieve a concentration ratio of 2000 suns, would satisfy the FOM: 0.631 < 0.65. Hardware of interest should be operable for 30 years or have a viable replacement strategy. Cost must account for all contributions to installed cost. Environmental impacts on the collector, particularly operable wind speeds and survivable wind speeds, should be considered.

Beyond development of the core collector hardware, applications which address collector assembly and installation in support of the above figure of merit will also be considered. A connection should be drawn between metrics that can be investigated in the project (such as time and motion studies) and their impact on the figure of merit.

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Finally, applications which propose technologies addressing the operation and/or maintenance of CSP collectors are also sought. Such applications may address optical losses not generally dictated by the optical hardware (aiming technology, control systems, performance degradation, collector down time, wind mitigation, etc.) as well as operational cost of the collector field. Applicants may describe the effect of the proposed technology on avoided collector capital cost, annual efficiency improvement, or other variables relatable to the LCOE of a CSP plant.

For further information on challenges and opportunities relating to Topic 2.2, Advanced CSP Collectors, visit https://energy.gov/eere/solar/downloads/technical-background-2018-seto-funding-opportunity-announcement.

Topic 2.3 Advanced Power Cycles for CSP

This topic will fund innovations in power cycles compatible with cost competitive CSP. The power cycle subsystem converts collected thermal energy from the CSP receiver and/or thermal energy storage into electricity. Under this topic, applications developing advanced power cycles are sought. Appropriate power cycles must be able to convert thermal energy to electricity at an efficiency greater than 50%, must have a capital cost of less than \$900/kW (including heat exchange into the power cycle), must be compatible with dry cooling, and support 30 years of CSP operation. While this topic is open to a variety of high-efficiency, low-cost thermal-to-electric power cycles, the supercritical CO₂ (sCO₂) cycle is of particular interest. EERE, with the Offices of Nuclear Energy and Fossil Energy, have collaboratively focused on the development of the sCO₂ Brayton cycle. Shared research goals have accelerated the development of critical components and broadened the foundational knowledge related to this cycle. Applicants proposing further R&D of the sCO₂ cycle must be familiar with state of the art developments fostered by this initiative as well as external entities.

Supercritical CO₂ Power Cycles

The supercritical CO₂ (sCO₂) cycle is a viable candidate to satisfy the cost and efficiency requirements stated above. It is advantageous for its high conversion efficiency, dry cooling compatibility, small size (influencing construction and O&M costs), and efficient integration with CSP heat transfer media. Applications of interest for this subtopic fall into 4 categories:

- 1. Component innovations supporting sCO₂ cycle variations uniquely advantageous to operation of a complete CSP plant
- 2. Component innovations for the sCO₂ Recompression Closed Brayton Cycle
- 3. Materials and Manufacturing Innovations supporting the cycle's use with CSP

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¹⁶ https://energy.gov/under-secretary-science-and-energy/supercritical-co2-tech-team



- Emphasis is placed on innovations supporting the primary heater which couples the power cycle to a specific CSP HTF or TES system. Innovations relevant to other components throughout the cycle are encouraged
- 4. Cycle Operations and Maintenance Technology Innovations

Novel Power Cycles Impacting CSP Market Viability

Alternative thermal-to-electric conversion processes may offer improved performance, be more amenable to CSP, or allow a CSP system to operate in some superior embodiment. Research into such alternative cycles which enable a transformative step in CSP may be proposed as part of this topic. Proposals must indicate a power cycle efficiency target, cost target, and the constraints placed on other CSP subsystems. All proposed CSP configurations must be amenable to integration with thermal energy storage.

For further information on challenges and opportunities relating to Topic 2.3, Advanced Power Cycles for CSP, visit https://energy.gov/eere/solar/downloads/technical-background-2018-seto-funding-opportunity-announcement.

Topic 2.4 Advanced CSP Thermal Transport System and Components

This topic will fund innovations in the CSP receiver subsystem and thermal energy storage subsystem. All CSP components between the collector field and the power cycle can be collectively labeled the thermal transport system. This begins where the incident photon is converted to thermal energy, and ends immediately before the thermal energy is exchanged into the power cycle. Components in this section include the receiver panel, heat transfer media (HTM), HTM piping, HTM structure (e.g. tower), HTM movement (pump, circulator, elevator, etc.), thermal energy storage (TES) media, TES containment and heat exchange, heat tracing, system sensors, and controls. To be compatible with the CSP LCOE target of 5¢/kWh, these systems must collectively cost less than \$615/kWh while supporting a 50% efficient power cycle, a 90% efficient receiver panel, 14 hours of TES with 99% energetic efficiency and 95% exergetic efficiency, and total parasitic losses no more than 6% of the turbine gross power. These targets must be met by a reliable system able to operate for 30 years at the temperature conditions required by the targeted power cycle.

Research and development applications are sought for individual components or collections of components compatible with the above cost and efficiency paradigm. Research projects can include sub-commercial scale versions of the component to test operational compatibility. Projects should include detailed cost modelling for the economic viability of the component at scale. Targeted power cycles must be identified (which determine the temperature of the thermal transport system). If a targeted power cycle has an efficiency below 50%, additional savings or performance improvements elsewhere must offset the performance loss in the power cycle.

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As described in the introduction to Topic 2, concepts redundant with the Gen3 CSP initiative are not of interest. ¹⁷ New opportunities to achieve cost competitive CSP are sought by exploring new temperature paradigms, new basic research solutions several steps from component integration, and innovations supporting system architectures unique from the described Gen3 system and pathways.

For further information on challenges and opportunities relating to Topic 2.4, Advanced CSP Thermal Transport System and Components, visit https://energy.gov/eere/solar/downloads/technical-background-2018-seto-funding-opportunity-announcement.

Topic 2.5 Innovative Pathways: Concentrating Solar Power

This topic will explore innovative approaches and models to accelerate the transfer of CSP and related technologies from the lab into the real world. Rather than funding research on individual technology solutions directly, applicants will research and develop new methods to advance research portfolios of solar (and related) technologies and overcome challenges endemic to the solar technology transfer space, including knowledge gaps between the research/industrial communities and constraints on access to necessary resources. Applicants must demonstrate a realistic pathway to test, scale and sustain the model after the period of performance. Potential areas of interest include, but are not limited to, models to deploy alternative capital (e.g., local public-private partnerships, foundations) for technology R&D or transfer, structures to incentivize industry-researcher collaboration, approaches to lower barriers such that new entrants can leverage existing facilities, data and build capacity (e.g., dormant manufacturing capacity or underutilized laboratory space), and methods to drive down the cost and accelerate processes around hardware validation and certification.

¹⁷ Mehos, Mark, et al. *Concentrating Solar Power Gen3 Demonstration Roadmap.* No. NREL/TP-5500-67464. NREL (National Renewable Energy Laboratory (NREL), Golden, CO (United States)), 2017.

Topic 3 Photovoltaic Research and Development (PVRD)

Future improvements in the efficiency, cost, reliability, and lifetime of PV technologies have the potential to substantially reduce the cost of solar power and contribute to greater energy affordability. Figure 5 illustrates one possible path for realizing a factor of two reduction in the levelized cost of electricity (LCOE) for utility-scale PV (UPV).18 The values shown in Figure 5 are for a U.S. location with average solar resources and without incentives. PV systems located elsewhere in the 48 contiguous states have annual solar exposure that can be as much as 30% higher or 30% lower than the national average, with a corresponding variation in the cost of solar electricity for those locations.

The path for achieving 3¢ per kWh for UPV illustrated in Figure 6 assumes a PV module efficiency of 25% and a module price of 25¢ per

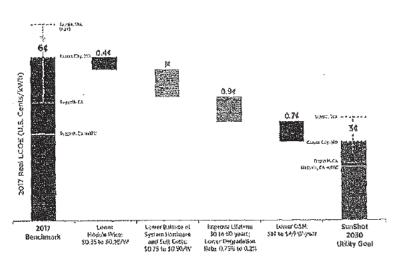


Figure 5. Waterfall chart showing one possible path to achieving an unsubsidized LCOE of 3¢/kWh for standard UPV project conditions in the U.S.

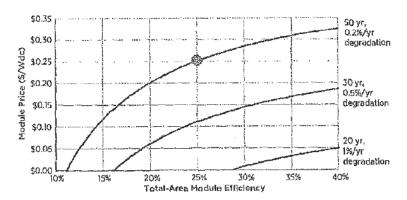


Figure 6: PV technology pathways to reach 3¢/kWh in a U.S. location with average solar resource, specifically illustrating the trade-offs between module price, efficiency and reliability. All points on all lines are combinations of metrics that reach 3¢/kWh. The orange dot identifies the combination of module price and efficiency used to generate Figure.

watt, but other combinations of module cost and performance can deliver the same LCOE. Figure 6 illustrates various combinations of module efficiency, module price, and system

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¹⁸ Single-axis tracking, 21% capacity factor (AC), 7% nominal weighted average annual cost of capital, 2.5% annual inflation, operation/maintenance (O&M) of \$4/kW_{dc}-yr escalating 2% faster than inflation, 5-yr depreciation, 37% effective tax rate. No investment tax credit or financial incentives beyond Modified Accelerated Cost Recovery System (MACRS) are included in the calculation.



lifetime that all represent LCOE of 3¢ per kWh under standard UPV project conditions. The module price needs to be high enough to support a sustainable module supply chain, yet low enough to help drive growth in market demand.²

The photovoltaics (PV) research and development (R&D) program supports early-stage research to increase performance, reduce materials and processing costs, and improve reliability of PV cells, modules, and systems. The average levelized cost of electricity (LCOE) generated from utility-scale PV systems has recently met the SunShot 2020 cost target of \$0.06/kWh, however additional early-stage PV R&D is necessary to reach newly announced SunShot 2030 targets for utility, commercial, and residential systems. Durable and high-efficiency cells and modules manufactured at lower costs will drive the LCOE of utility-scale PV systems toward \$0.03/kWh. Such cost reductions can enable dispatchable, PV-generated electricity and increase grid resiliency where the cost savings can be applied to energy storage devices, demand side management, grid operation, and advanced power electronics to provide affordable, resilient, secure, and reliable electricity for U.S. consumers.

Photovoltaic module prices have dropped dramatically since 2010, due in part to increasing economies of scale worldwide and the commercialization of innovative PV cell and module technologies. However, these decreases in module price have narrowed operating margins for module manufacturers and highlight the importance of early-stage research efforts to transform scalable manufacturing processes across the PV supply chain.

Maximizing performance and energy yield, increasing reliability, and decreasing the cost of PV technologies requires improvements across all components of a PV system, as shown by the potential roadmap to the 2030 cost targets in Figure 5. Technical challenges span from increasing module efficiency while reducing cost per watt, reducing fielded degradation rates, and enhancing system design to improve energy yield and system operations. Research and development is critical to ensure that performance gains realized in the laboratory translate into greater energy output in the field when modules are subjected to environments beyond those determining the standard test conditions (STC) nameplate rating. The paragraphs below describe in more detail the most important research and development opportunities relevant to the different aspects of affordable and reliable PV systems.

Improving PV performance has been a primary pathway toward reducing the LCOE of solar electricity, as more efficient modules lead to increased energy production and reduced electricity costs. As PV technologies begin to approach efficiency limits, additional understanding and control is required to further improve performance and durability. At the cell level, different absorber technologies face unique technical challenges to closing the gap between their theoretical efficiency limits and current lab and commercial-scale performance records. Despite these individual differences, increasing cell efficiency generally requires understanding which defects are detrimental to carrier lifetime and open-circuit voltage;

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optimizing doping control; quantifying and finding solutions for bulk and Interface recombination pathways; developing new cell architectures or optical designs to utilize a wider range of the solar spectrum; and improving the quality of passivation and contact formation. Improving the scientific understanding of, and finding solutions for, these efficiency-limiting factors is a critical SETO priority to enable future cost reductions across the PV industry. Early in the supply chain, low-cost methods for wafer and cell preparation must reduce material use and increase throughput and yield while maintaining high-quality device characteristics such as carrier lifetime. Additionally, low cost methods and materials for contacts and metallization are required to further improve the performance and durability of PV cells and modules.

A consistent gap in absolute efficiency persists between cell and module technologies. This difference is due to factors such as large-area non-uniformities, optical losses including shading or reflection from module components, spacing between cells, and interconnection losses. The development of methods to characterize and subsequently improve large area uniformity and reduce the defect density of high throughput processes are of interest to help improve the performance of PV modules. Module fabrication represents the largest cost category in the PV module, due to the substantial cost of interconnection, frontsheet, encapsulant, and backsheet materials as well as the time consuming lamination steps that require large areas in the factory. Additionally, cell-level research on scalable manufacturing processes informed by technoeconomic analyses are important opportunities to improve module-level performance, reduce materials and manufacturing costs, and subsequently lower the LCOE of PV systems. The Solar Energy Technologies Office is soliciting proposals addressing all of these important R&D challenges that will help reduce manufacturing costs to sustainable levels.

Photovoltaic systems that provide reliable energy production beyond the typical 25-30 year warranties offer an important opportunity to further improve the affordability of solar electricity. Durability concerns impact all module components and span a module's operational lifetime. By understanding and minimizing degradation rates in module components and architectures, the operational lifetime of PV systems can be extended to increase the overall energy generation, which reduces the LCOE of the system as shown in Figure 6. In addition, as module failure mechanisms are understood and solved, the perceived investment risk in PV. systems can be lowered, which can lead to reduced financing rates. To realize these cost reductions, it is critical to understand the science of degradation in cell and module materials, identify relevant degradation modes, develop physical models that inform durable module design beyond empirical optimization, and improve the relevance of accelerated testing to failure mechanisms seen in the field. In particular, the ability to predict how multiple environmental stressors, including light, heat, bias, and moisture, interact with each other and act on each module layer to cause particular degradation pathways is of primary interest for this solicitation. Furthermore, research projects addressing how novel materials for components such as encapsulants, backsheets, and front barriers affect module degradation modes and designing accelerated tests to qualify new or altered module components will

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support progress toward module lifetimes beyond 30 years. Projects in module and system reliability are encouraged to leverage capabilities of the <u>Durable Module Materials (DuraMAT)</u> <u>Consortium</u>, which brings together national laboratories, universities, and industry to discover and develop new materials, testing methodologies, and designs for durable PV systems.

At the other end of the value chain, research is needed to define new module applications and form factors in order to further increase the economic and aesthetic value of PV through integration with existing environments. Additionally, as the deployment of PV technologies increases and systems mature, more sustained efforts will be required to understand cost-effective methods to recycle modules and minimize waste across absorber technologies at the end of a module's life.

Beyond cell and module improvements, the optimized design and installation of PV systems at utility, commercial, and residential scales have the potential to maximize energy yield without increasing the overall LCOE of the system. Research efforts to maximize energy yield, sometimes measured by the ratio of energy produced (kWh) to nameplate power (kW), could include reducing module temperature coefficients or developing new module designs. Factors such as module tilt, spacing, azimuthal orientation, and tracking provide tradeoffs between energy and power densities of an installation, and the appropriate optimization of these factors depends on location, irradiance, and local pricing schemes. Technology approaches that reduce PV system costs by improving the speed and cost of PV system design and/or system installation are of interest for this solicitation. Research and development into balance of system technologies, including but not limited to inverters, junction boxes, cables, connectors, racking, and tracking also provide a path to reduce system-level costs. For example, reliable module level electronics have the opportunity to increase energy yield and improve shade tolerance, while alternative methods of durable framing, racking, and mounting PV modules can reduce weight, expand appropriate applications, or maximize energy yield when combined with novel architectures like bifacial modules. Finally, underlying all of these system-level advances is an increase in the amount of data available for performance monitoring and failure detection. Data acquisition at the module and system levels combined with analytic tools and machine learning algorithms provide opportunities to diagnose both system and module-level failures. Software and hardware solutions that provide more precise energy production estimates and streamline operations by monitoring PV system components can inform cell and module research, decrease risk, and increase the overall value of PV arrays across their life cycle.

Furthermore, all of the plans for technology innovation described above would benefit from the development of new, complementary financing instruments to attract early private capital investment to the commercialization of these innovations. SETO works with innovation hubs and the national laboratories to identify new financing arrangements that enable patient

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investors and specialized funds to transition these innovations from government funding to the private sector and expand the domestic market share throughout the PV value chain.

The DOE National Laboratories (http://energy.gov/maps/doe-national-laboratories) provide unique capabilities that can support SETOs goals noted above. As appropriate and needed, applicants may design a work plan that takes advantage of the unique DOE facilities and capabilities. In such cases, justified work plans and clear budgets must be developed in consultation with the relevant National Laboratory, and the Applications must include a letter of commitment from the concerned National Laboratory confirming the proposed budget, scope, and availability of the facilities and/or laboratory personnel to complete the proposed work within the proposed project schedule. Note that collaboration with or the use of facilities at a DOE National Laboratory is not a requirement for Application to this FOA; Applications will be evaluated on their own merit as per the criteria set forth in this FOA.

The topic areas below provide five different funding mechanisms to support proposals addressing the technical challenges surrounding efficiency, cost, and reliability as described above. Also, please refer to the summary report based on the <u>PV Innovation Roadmap Request for Information</u> for a more detailed discussion of these challenges as they pertain to different technologies.

Topic 3.1 Small Innovative Projects in Solar (SIPS): Photovoltaics

This topic area will fund small, focused projects in novel and/or emerging areas of photovoltaics research, which inherently involve significant technical risk but have the potential to produce dramatic progress towards a solar LCOE of \$0.03/kWh by 2030. Applications of interest will contain targeted, well-defined projects that will demonstrate new concepts for continued study in the future or will be innovative, short-term projects. Along with topics of interest motivated by the background and task summary sections above, examples of emerging areas that would merit focused study include rapid growth techniques not previously demonstrated for PV absorber materials, novel metallization methods, alternate wafering processes, low-cost and high efficiency cell or module concepts, improved reliability of PV materials and modules, as well as life cycle analysis for emerging solar and module recycling technologies.

This topic area will use an abbreviated application process. In an effort to limit the resources required by applicants to apply for the Small and Innovative Projects in Solar (SIPS) (from Topic 2.1 and 3.1), a simplified application process is described in section IV.D of this document. Following submission of an LOI, there is an expedited concept paper phase for SIPS projects. SIPS projects do not need to submit a concept paper by the deadline listed on the cover paper; Topic Areas 2.1 and 3.1 SIPS applications must instead resubmit their Letter of Intent again as the concept paper and also include a summary slide by the concept paper deadline to bypass an administrative software restriction of EERE Exchange. Full SIPS applications should be submitted by the full application deadline, and all SIPS full applications should complete their

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submissions using the format provided in section IV.D. Failure to complete these required process steps will result in an inability to submit a SIPS application for review.

Topic 3.2 Increasing Affordability, Reliability, and Manufacturability of PV Cells, Modules, and Systems

This topic area will fund PV research aimed at the development of cell and module technologies leading to substantial improvements in the performance and reliability of PV technologies while reducing materials, component, manufacturing, installation, and operation and maintenance costs. Along with topics of interest motivated by the background and task summary sections, examples of emerging areas that would merit focused study include reducing the material inputs and supply chain costs of wafers, cells and modules; improving the durability and process yield of perovskite solar cells; mitigating degradation modes and reducing manufacturing costs for heterojunction and other advanced silicon architectures; optimizing defect and dopant control in CdTe and CdSeTe alloys; determining and tracking how individual defects impact thin film solar cells; and otherwise developing concepts that significantly modify PV materials, cells, and module architectures to achieve improvements in the state of the art. Projects focused on the application of advances in materials science, advanced metrology to accurately characterize all optical and electrical aspects of materials and device performance, and deposition methods or processes to improve cell or module performance, improve service lifetime, and/or reduce manufacturing capital costs are strongly encouraged. Early-stage research into novel module form factors, module level power electronics, system architectures, or innovative tracker technologies that provide significant opportunities to improve the affordability of installed PV systems are also of interest. This topic will also support research using "deep software" technologies, those that require multi-year research efforts, to advance artificial intelligence and data analytics to transform how PV system data can be leveraged to understand module and array performance. Research that automates fault or failure monitoring and connects these detections to cell or module design provides an important feedback loop to inform cell and module research or system operation, creating the potential to maximize energy generation and the overall value of PV systems.

Applications of interest will conduct targeted research to advance industrially-relevant photovoltaic technologies that have the potential to impact the market within ten years. Successful projects will improve the state of the art in cell, module, or system performance, reliability, and/or manufacturability, toward the SunShot 2030 targets. Cross-sector teams involving national lab, university and/or industry partners are encouraged.



Topic 3.3 Collaborative Cross-Cutting PV Research

This topic area will fund projects that form interdisciplinary teams to investigate the application of new scientific concepts that extend beyond the boundaries of traditional PV absorber technologies. Applications must demonstrate the formation of integrated and functional teams with distinct and complementary capabilities in order to solve challenges through the application of technologies that are adjacent to or underutilized in PV research but have the potential to significantly enhance the state of the art of PV technologies. Applications focused on developing the detailed understanding of defects, degradation, and limitations in performance of PV materials, cells, and modules by a coordinated team including cell/modules experts and detailed characterization and/or modeling expertise are encouraged. Functional areas of interest include: surface passivation, interfaces and carrier-selective contacts, metallization, newer and industrially-relevant cell designs and architectures, wafer or thin film processing and fabrication, cell interconnection and module design, cell and module reliability, and multi-junction devices. The applications must clearly demonstrate the complementary capabilities that only when integrated successfully will allow the team to collectively achieve the project objectives.

Project teams should have existing expertise within the proposed research area, have clear research goals, and be capable of obtaining a defined, measurable impact on the state of the art within the three-year project timeframe. Projects should include a lead investigator who coordinates communication with the rest of the team and ensures that individual progress among participants contributes to overall project objectives. In addition, successful applications will include representation from at least two research groups that provide non-overlapping and required expertise to address the proposed research objectives. Where relevant, applicants are encouraged to leverage expertise in characterization, modeling, and/or other relevant methods from research areas beyond solar. The anticipated annual project funding level is set to accommodate the formation of collaborative project teams. Applications of interest will focus on research relevant to competitive photovoltaic technologies and will have the potential to impact the market within ten years. Successful projects will improve the state of the art in module performance, reliability, and/or manufacturability, toward the SunShot 2030 cost targets.

Topic 3.4 Innovative Pathways: Photovoltaics

This topic will explore innovative approaches and models to accelerate the transfer of photovoltaic and related technologies from the lab into the real world. Rather than funding research on individual technology solutions directly, applicants will research and develop new methods to advance research portfolios of solar (and related) technologies and overcome challenges endemic to the solar technology transfer space, including knowledge gaps between the research/industrial communities and constraints on access to necessary resources. Applicants must demonstrate a realistic pathway to test, scale and sustain the model after the period of performance. Potential areas of interest include, but are not limited to, models to

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deploy alterative capital (e.g. local public-private partnerships, foundations) for technology R&D or transfer, structures to incentivize industry-researcher collaboration, approaches to lower barriers such that new entrants can leverage existing facilities, data and build capacity (e.g., dormant manufacturing capacity or underutilized laboratory space), and methods to drive down the cost and accelerate processes around hardware validation and certification. Research on efforts and models that expand PV access to low and moderate income (LMI) Americans should also be submitted to this topic, including solutions to overcome creditworthiness and information asymmetry issues within LMI communities.

Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives

As discussed in earlier topics, renewable energy deployment in the United States has experienced rapid growth in recent years, fueling a similarly rapid increase in jobs in the renewable energy sector, with solar standing out as a particularly strong job-creating industry. As of November 2017, the solar industry employed over 250,000 workers, the result of an annual average growth rate of 16% for the 2012-2017 time period¹⁹. This rate is approximately 9 times that of the overall U.S. economy. Given that, frequently, employers cite a lack of the proper skills and experience as a major source of difficulty in hiring new staff¹⁹, and that a grid with ever-increasing amounts of solar requires next-generation skills in information science and data analysis, expanding the skill set of solar workers and those that play an important role in the deployment and management of solar (e.g. power systems professionals) is a primary goal of this Topic. This explosive growth in solar energy requires a skilled workforce, particularly in science, technology, engineering, and math (STEM), to ensure that the adoption of solar and other DERs occurs in a stable and sustainable fashion.

One key focus of the Solar Energy Technologies Office is to create programs that support consistent, high-quality workforce training and credentialing that affect the U.S. solar industry. Doing so addresses key challenges to the solar industry such as the speed of interconnections and maintaining consistent information across varying regulatory and market landscapes. Developing tools and trainings that assist solar and other professionals, attract talent to the solar industry, and that help veterans and other talent pools to fill the growing workforce needs of the solar industry are targeted strategies to achieve these goals. To this end, this topic area addresses two primary aspects of the U.S. workforce relevant to the expansion of solar energy:

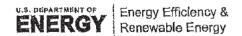
(1) increased participation of talent pools, such as veterans, in the solar industry and (2) enhancing the digital skills of U.S. electric grid workers through coordinated industry effort.

It is currently a priority of the U.S. government to support "actions that place an emphasis on expanding the STEM workforce to include all Americans." Other industries have derived

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¹⁹ National Solar Jobs Census 2017, (The Solar Foundation, 2018)

²⁰ Mulvaney, M. (August 17, 2017). FY 2019 Administration Research and Development Budget Priorities [M-17-30]. Retrieved from https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2017/m-17-30.pdf
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significant economic benefits from increasing participation in their workforce from broader talent pools and, as such, the solar industry has an opportunity to benefit from new workforce initiatives. Solar employers frequently cite difficulty in finding fully qualified employees, suggesting that the existing talent pools being tapped by the industry may not be sufficient in providing the skilled labor solar needs. As such, an opportunity exists for programs that grow and expand the labor pool.

As previously discussed, solar, other DERs, and other advanced technologies are being deployed and connected to the grid every day. As the pace of technological innovation in the grid accelerates, it is crucial that the workforce supporting and operating these technologies grow, adapt to new challenges, and anticipate future needs. As with much of the US economy, the grid is experiencing huge growth every year in terms of the rate and quantity of data being generated by sensors and operational systems throughout the country. Solar, in particular, has rapidly elevated the need for greater visibility and understanding of the dynamics of the distribution side of the grid to support grid operation with increasing penetrations of distributed resources. As solar deployment continues to grow rapidly, the need to effectively utilize the large amounts of data being generated will only continue to increase. The security of related systems is also of utmost importance to physical, cyber and national security and the data produced by these systems needs to be properly structured, stored, and made accessible to those with the skills to derive meaningful operational or strategic insights from it (e.g. in utilizing parcel data and substation hosting capacities to predict solar adoption for distribution planning purposes). As such, these are the skills this funding topic focuses on for grid workers, with the expectation that a greater knowledge base in the relevant elements of the digital grid will contribute to greater grid reliability and resiliency as well as reduce costs associated with infrastructure investments.

In order to maximize the impact of federal funding provided for workforce training as a part of this FOA, the Prime Recipient and Subrecipients of projects funded in this topic will be required to license, under a Creative Commons Attribution License (CCBY), to the public all work related to training or education developed in the performance of the award. Please note that, in certain circumstances regarding sensitive topics and material (e.g. sensitive cybersecurity course content), awardees will confer with DOE on the appropriateness of including such materials in an open format and may, at both parties' discretion, decide to leave such materials out of the Creative Commons license. The decision on what material warrants conference with DOE will be determined by the recipient. By default, all materials that are not deemed too sensitive will be licensed with the CCBY license. This CCBY license allows subsequent users to copy, distribute, transmit and adapt the copyrighted work and requires such users to attribute the work in the manner specified by the Prime Recipient or Subrecipient. Notice of the License shall be affixed to the work. Only work that is developed in the performance of or under the award is required to be licensed under the CCBY license. Preexisting copyrighted materials licensed to, or purchased by the Prime Recipient or Subrecipient

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Topic 4.1 Expanding the Solar Workforce

This topic area is focused on two primary and complementary concepts: (1) the solar industry reports continued shortages of workers with the proper skill set and (2) the solar industry does not sufficiently leverage all potential talent pools, such as our nation's veterans and students attending community and technical colleges. Further background information on these issues can be found here: https://energy.gov/eere/solar/downloads/technical-background-2018-seto-funding-opportunity-announcement. Work funded by this topic will include initiatives focused on increasing the pipeline of skilled workers, including veterans, in the regions of the US where they are most needed by the solar industry.

Successful projects in this topic area will demonstrate a strong connection to the solar industry with engagement from potential employers for program participants, taking the form, for example, of embedded traineeships within target companies or apprenticeships; a targeted analytical focus describing the specific skills and communities that will be targeted as part of the proposed workforce program; and a rigorous methodology for assessing, and periodically re-assessing, the value the project has provided to the solar industry as a whole, such that value-adding pivots to program design may be incorporated as appropriate. In addition, any proposed training program with formal credentials or certifications should be accompanied by evidence that affirms the value of such credentialing to potential employers, to ensure that time and financial resources are spent well in the curriculum being described.

Given the Department of Energy's commitment to helping our nation's veterans find jobs uniquely suited to their talents in the energy sector, proposals focusing on incorporating veterans into new or existing solar workforce training initiatives are strongly encouraged. Proposals relating to veterans programs should include discussion of what veteran/active duty military communities (e.g. occupational specialties) will be target audiences of the program being proposed, Proposals targeting trainee communities that are shown to be currently underutilized, and that can be reasonably expected to receive employment in the solar industry following participation in the proposed program, are of particular interest. In addition, participant communities should be chosen in such a way as to match trainees' pre-existing (or learned through training) skill sets with open positions of relevance or general industry needs. Applicants that can show a high level of awareness and familiarity of the military community and that have experience working with relevant Federal agencies, non-profit organizations, national labs, and companies in this space are encouraged to apply.

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Topic 4.2 Digital Adaptation Training for Distributed Energy Resources on the Grid This topic area intends to fund a program that supports the digital transition in power systems by increasing the quality, accessibility, and value of training content and delivery. The use of communications and measurement technology in coordination with distributed energy resources (DERs, especially solar) are contributing to the grid becoming a more dynamic system. For tomorrow's grid operations, more experts are needed at the intersection of power systems and digital systems – such as cybersecurity, interoperability, machine learning, predictive analytics, data science, information technology, and communications system infrastructure. Training and credentials are needed to make it easier to find and hire these experts as well as ensure a consistent level of understanding across the industry. Increased standardization can improve the reliability and resilience of the future grid by reducing the number of weak links in the system. Further background information can be found here: https://energy.gov/eere/solar/downloads/technical-background-2018-seto-funding-opportunity-announcement.

Applications must describe an initiative with national relevance to guide workforce efforts in the power systems industry, and utilities especially, into a digital future. This initiative should rely on regional hubs to maximize impact, as demonstrated in other workforce development efforts. The initiative should address system-level challenges such as credentials for new Job roles or training standards. In addition, the initiative should develop and test new course material and delivery mechanisms (e.g. online-only, hybrid, and fully in-person learning approaches) targeted at power systems professionals to further understanding of the best methods for increasing engagement and knowledge retention of participants. The initiative should justify which topics it prioritizes and what the right audience is for those topics (e.g. power systems engineers, executives, customer support representatives, etc.). It may be useful to reference a grid architecture framework in identifying these needs.²¹ Efforts should focus on issues related to new technology adoption and impact on operations, particularly as related to solar. For example, relevant topics may include distribution planning using advanced DER adoption modeling, roll-out of power electronics, data analytics, and other topics. The scope of the initiative may vary from direct training to wider information-sharing efforts among industry stakeholders, as appropriate for the identified topics. Proposals should describe how their initiative fits into existing training and professional development efforts and why government funding is appropriate for this effort.

Successful applications must demonstrate a strong connection with the power systems industry broadly, and utilities specifically, to facilitate an ongoing needs assessment of the industry. In addition, successful applications will incorporate strategies to facilitate adoption of the program, such as developing grid-specific credentials on these topics and working with human

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²¹ Taft JD, and AS Becker-Dippmann. 2015. <u>Grid Architecture</u>. PNNL-24044, Pacific Northwest National Laboratory, Richland, WA.

resources (HR) departments to determine the value. Applications that include innovations in the development or delivery of professional development, such as experiential learning or peer networks, are of particular interest. Applications with higher cost share, letters of commitment to partner or participate from the power systems and utility industry, and a plan for a sustainable revenue model to expand the scope will be viewed more favorably. Applications should also identify opportunities to increase the diversity of the power systems workforce, in terms of gender, race, and veteran status. Applications should detail a plan for independent third-party evaluation, which includes designing a pilot to execute in the first year. One milestone in the first quarter of work proposed should be focused on the hiring of the evaluation firm, subject to DOE feedback.

All work under EERE funding agreements must be performed in the United States. See Section IV.J.3 and Appendix C.

C. Applications Specifically Not of Interest

The following types of applications will be deemed nonresponsive and will not be merit reviewed or considered (See Section III.D of the FOA):

- Applications that fall outside the technical parameters specified in Section I.B of the FOA
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics).
- Undifferentiated research, products, and/or solutions: This FOA seeks
 innovative solutions that help achieve SETO goals. Incremental advancement
 of undifferentiated or duplicative efforts is insufficient to meet SETO goals
 and is not of interest to this FOA.
- Projects lacking influential impact from federal funds: This FOA intends to fund projects where Federal funds will provide a clear and measurable impact, (e.g. retiring risk sufficiently for follow-on investment or catalyzing development.) Projects that have sufficient monles and resources to be executed regardless of federal funds are not of interest.
- Re-funding the same idea at the same technology readiness level: This FOA
 does not intend to re-fund prior SETO awardees for the same idea at the
 same technology readiness level.
- Applications focusing exclusively on HVAC and water heating applications are not of interest.
- Products or solutions for systems which do not tie to a grid or micro-grid (i.e. wholly off-grid applications and portable power).
- Fundamental electro-chemical battery materials research

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Hydrogen and fuel cell technologies

Any Concept Papers or Full Applications that focus on "Areas Specifically Not of Interest" will be rejected as nonresponsive and will not be considered for award.

D. Authorizing Statutes

The programmatic authorizing statute is EPACT 2005, Section 931 (a)(2).

Awards made under this announcement will fall under the purview of 2 CFR Part 200 as amended by 2 CFR Part 910.

II. Award Information

A. Award Overview

i. Estimated Funding

EERE expects to make awards based on the guidance provided in the below table (subject to the availability of appropriated funds). The cells are structured to show:

- The expected total amount of funding allocated for the subtopic
 - Note: The actual funding numbers per subtopic may be somewhat higher or lower depending on the number and quality of applications within each subtopic
- The average expected amount for an individual award within that subtopic
 - Note: Individual award amounts may be somewhat higher or lower than the expected amount depending on the scope of the project
- · The expected award duration for a project within that subtopic
 - Note: Depending on the scope of the proposed project, some projects may have shorter durations, and in rare cases, longer durations
- The expected number of awards that could be made for the subtopic
 - Note: The actual number of awards per subtopic will depend on the number and quality of applications within each subtopic

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| | Topic Title | Details (\$105.5M in total funding, |
|------------|---|-------------------------------------|
| | | below values are approximate) |
| TOPIC 1: A | daptive Local Grids, Advanced Systems Integration Tech | inologies (20% cost share, TRL 2-5) |
| Topic 1.1 | Adaptive Local Grids | \$18M |
| | , · · · · · · · · · · · · · · · · · · · | \$4.5M/award |
| | | 3 years |
| | | 4 awards |
| Topic 1.2 | Solar Observability | \$26M |
| Topic 1.3 | Solar + X | \$3M/award |
| | | 3 years |
| | | 8 awards \$2M |
| Topic 1.4 | Innovative Pathways: Systems Integration | \$2.00 \$1M/award |
| | | 3 years |
| | | 2 awards |
| Tani | 2: Concentrating Solar Power Research and Develop | |
| | | |
| Topic 2.1 | Small Innovative Projects in Solar (SIPS): Concentrating Solar | \$3M \$300k/award |
| | Power | 1.5 years |
| | | 10 awards |
| Topic 2.2 | Advanced CSP Collectors | \$20M total |
| | | \$2M/award |
| Topic 2.3 | Advanced Power Cycles for CSP | 3 years |
| Topic 2.4 | Advanced CSP Thermal Transport System and Components | 10 awards |
| Topic 2.5 | Innovative Pathways: Concentrating Solar Power | \$1M |
| | | \$1M/award |
| | , | 3 years |
| | | 1 award |
| | Topic 3: Photovoltaics Research and Development (| 20% cost share, TRL 2-5) |
| Topic 3.1 | Small Innovative Projects in Solar (SIPS): Photovoltaics | \$2M |
| · | | \$200k/award |
| | | 1.5 years |
| | | 10 awards |
| Topic 3.2 | Increasing Affordability, Reliability, and Manufacturability of | \$21M |
| | PV Cells, Modules, and Systems | \$1.5M/award 3 years |
| Topic 3.3 | Collaborative Cross-Cutting PV Research | 14 awards |
| Table 2.4 | Innovative Pathways: Photovoltaics | \$4M |
| Topic 3.4 | Innovative Patriways: Printovoltaics | \$1M/award |
| | | 3 years |
| | j | 4 awards |
| Т | opic 4: Improving and Expanding the Solar Industry th | rough Workforce Initiatives |
| | (Topic 4.1 - No cost share (Education and Outreach) / | |
| Y.ula 4.1 | Expanding the Solar Workforce | \$2.5M |
| Topic 4.1 | 1 Exhauriug rus aniai Motkinics | \$1,25M/award |
| | 1 | 3 years |
| | 1 | 2 awards |
| Topic 4.2 | Digital Adaptation in Power Systems through Workforce | \$6M |
| TOPIO TIE | Initiatives | \$3M/award |
| | | |

Questions about this FOA? Email <u>SETO.FOA@ee.doe.gov.</u>

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@hg.doe.gov.</u>

Include FOA name and number in subject line.

2 awards

EERE may issue awards in one, multiple, or none of the topic areas under this FOA:

EERE may establish more than one budget period for each award and fund only the initial budget period(s). Funding for all budget periods, including the initial budget period, is not guaranteed.

ii. Period of Performance

EERE anticipates making awards that will run from one up to five years in length, comprised of one or more budget periods. Project continuation will be contingent upon satisfactory performance and go/no-go decision review. At the go/no-go decision points, EERE will evaluate project performance, project schedule adherence, meeting milestone objectives, compliance with reporting requirements, and overall contribution to the program goals and objectives. As a result of this evaluation, EERE will make a determination to continue the project, re-direct the project, or discontinue funding the project.

iii. New Applications Only

EERE will accept only new applications under this FOA. EERE will not consider applications for renewals of existing EERE-funded awards through this FOA.

B. EERE Funding Agreements

Through Cooperative Agreements and other similar agreements, EERE provides financial and other support to projects that have the potential to realize the FOA objectives. EERE does not use such agreements to acquire property or services for the direct benefit or use of the United States Government.

i. Cooperative Agreements

EERE generally uses Cooperative Agreements to provide financial and other support to Prime Recipients.

Through Cooperative Agreements, EERE provides financial or other support to accomplish a public purpose of support or stimulation authorized by Federal statute. Under Cooperative Agreements, the Government and Prime Recipients share responsibility for the direction of projects.

Questions about this FOA? Email <u>SETO.FOA@ee.doe.gov</u>.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@ha.doe.gov</u>

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EERE has substantial involvement in all projects funded via Cooperative Agreement. See Section VI.B.9 of the FOA for more information on what substantial involvement may involve.

ii. Funding Agreements with FFRDCs

In most cases, Federally Funded Research and Development Centers (FFRDC) are funded independently of the remainder of the Project Team. The FFRDC then executes an agreement with any non-FFRDC Project Team members to arrange work structure, project execution, and any other matters. Regardless of these arrangements, the entity that applied as the Prime Recipient for the project will remain the Prime Recipient for the project.

ili. Grants

Although EERE has the authority to provide financial support to Prime Recipients through Grants, EERE generally does not fund projects through Grants. EERE may fund a limited number of projects through Grants, as appropriate.

iv. Technology Investment Agreements

in rare cases and if determined appropriate, EERE will consider awarding a Technology Investment Agreement (TIA) to a non-FFRDC applicant. TIAs, governed by 10 CFR Part 603, are assistance instruments used to increase the involvement of commercial entities in the Department's research, development, and demonstration programs. A TIA may be either a type of cooperative agreement or an assistance transaction other than a cooperative agreement, depending on the intellectual property provisions. In both cases, TIAs are not necessarily subject to all of the requirements of 2 CFR Part 200 as amended by 2 CFR Part 910.

In a TIA, EERE may modify the standard Government terms and conditions, including but not limited to:

 Intellectual Property Provisions: EERE may negotiate special arrangements with recipients to avoid the encumbrance of existing intellectual property rights or to facilitate the commercial deployment of inventions conceived or first actually reduced to practice under the EERE funding agreement. Accounting Provisions: EERE may authorize the use of generally accepted accounting principles (GAAP) where recipients do not have accounting systems that comply with Government recordkeeping and reporting requirements.

EERE will be more amenable to awarding a TIA in support of an application from a consortium or a team arrangement that includes cost sharing with the private sector, as opposed to an application from a single organization. Such a consortium or teaming arrangement could include a FFRDC. If a DOE/NNSA FFRDC is a part of the consortium or teaming arrangement, the value of, and funding for the DOE/NNSA FFRDC portion of the work will be authorized and funded under the DOE field work authorization system and performed under the laboratory's Management and Operating contract. Funding for a non-DOE/NNSA FFRDC would be through an interagency agreement under the Economy Act or other statutory authority. Other appropriate contractual accommodations, such as those involving intellectual property, may be made through a "funds in" agreement to facilitate the FFRDCs participation in the consortium or teaming arrangement. If a TIA is awarded, certain types of information described in 10 CFR 603.420(b) are exempt from disclosure under the Freedom of Information Act for five years after DOE receives the information.

An applicant may request a TIA if it believes that using a TIA could benefit the RD&D objectives of the program (see section 603.225) and can document these benefits. If an applicant is seeking to negotiate a TIA, the applicant must include an explicit request in its Full Application. After an applicant is selected for award negotiation, the Contracting Officer will determine if awarding a TIA would benefit the RD&D objectives of the program in ways that likely would not happen if another type of assistance agreement (e.g., cooperative agreement subject to the requirements of 2 CFR Part 200 as amended by 2 CFR Part 910). The Contracting Officer will use the criteria in 10 CFR 603, Subpart B, to make this determination.

III. Eligibility Information

To be considered for substantive evaluation, an applicant's submission must meet the criteria set forth below. If the application does not meet these initial requirements, it will be considered non-responsive, removed from further evaluation, and ineligible for any award.

A. Eligible Applicants

Questions about this FOA? Email <u>SETO.FOA@ee.doe.gov</u>.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@ha.doe.gov</u>
Include FOA name and number in subject line.



i. Individuals

U.S. citizens and lawful permanent residents are eligible to apply for funding as a Prime Recipient or Subrecipient.

ii. Domestic Entities

For-profit entities, educational institutions, and nonprofits that are incorporated (or otherwise formed) under the laws of a particular State or territory of the United States are eligible to apply for funding as a Prime Reciplent or Subrecipient. Nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding.

State, local, and tribal government entities are eligible to apply for funding as a Prime Recipient or Subrecipient.

DOE/NNSA Federally Funded Research and Development Centers (FFRDCs) are eligible to apply for funding as a Subrecipient (receiving up to 49.9% of the award funding) but not as a Prime Recipient.

Non-DOE/NNSA FFRDCs are eligible to apply for funding as a Subrecipient (receiving up to 49.9% of the award funding), but are not eligible to apply as a Prime Recipient.

Federal agencies and instrumentalities (other than DOE) are eligible to apply for funding as a Prime Recipient or as a Subrecipient.

iii. Foreign Entities

Foreign entities, whether for-profit or otherwise, are eligible to apply for funding under this FOA. Other than as provided in the "Individuals" or "Domestic Entities" sections above, all Prime Recipients receiving funding under this FOA must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. If a foreign entity applies for funding as a Prime Recipient, it must designate in the Full Application a subsidiary or affiliate incorporated (or otherwise formed) under the laws of a State or territory of the United States to be the Prime Recipient. The Full Application must state the nature of the corporate relationship between the foreign entity and domestic subsidiary or affiliate.

Questions about this FOA? Email <u>SETO.FOA@ee.doe.qov</u>.

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Foreign entities may request a waiver of the requirement to designate a subsidiary in the United States as the Prime Recipient in the Full Application (i.e., a foreign entity may request that it remains the Prime Recipient on an award). To do so, the Applicant must submit an explicit written waiver request in the Full Application. Appendix C lists the necessary information that must be included in a request to waive this requirement. The applicant does not have the right to appeal EERE's decision concerning a waiver request.

In the waiver request, the applicant must demonstrate to the satisfaction of EERE that it would further the purposes of this FOA and is otherwise in the economic interests of the United States to have a foreign entity serve as the Prime Recipient. EERE may require additional information before considering the waiver request.

A foreign entity may receive funding as a Subreciplent.

iv. Incorporated Consortia

Incorporated consortia, which may include domestic and/or foreign entities, are eligible to apply for funding as a Prime Recipient or Subrecipient. For consortia incorporated (or otherwise formed) under the laws of a State or territory of the United States, please refer to "Domestic Entities" above. For consortia incorporated in foreign countries, please refer to the requirements in "Foreign Entities" above.

Each incorporated consortium must have an internal governance structure and a written set of internal rules. Upon request, the consortium must provide a written description of its internal governance structure and its internal rules to the EERE Contracting Officer.

v. Unincorporated Consortia

Unincorporated Consortia, which may include domestic and foreign entities, must designate one member of the consortium to serve as the Prime Recipient/consortium representative. The Prime Recipient/consortium representative must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. The eligibility of the consortium will be determined by the eligibility of the Prime Recipient/consortium representative under Section III.A of the FOA.

Upon request, unincorporated consortia must provide the EERE Contracting Officer with a collaboration agreement, commonly referred to

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Problems with EERE Exchange? Email <u>EERE-ExchangeSupport@ha.doe.aov</u>
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as the articles of collaboration, which sets out the rights and responsibilities of each consortium member. This agreement binds the individual consortium members together and should discuss, among other things, the consortium's:

- Management structure;
- Method of making payments to consortium members;
- Means of ensuring and overseeing members' efforts on the project;
- Provisions for members' cost sharing contributions; and
- Provisions for ownership and rights in intellectual property developed previously or under the agreement.

B. Cost Sharing

- Cost Share 20% applicable to Topics 1, 2, and 3
 The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 2 CFR 200.306 and 2 CFR 910.130 for the applicable cost sharing requirements.)
- Cost Share Not Required Applicable to Topic 4.1
 Cost Share will not be required specifically and exclusively for topic 4.1.
 This topic deals with education and outreach activities which do not require cost share contributions.
- Cost Share 20% applicable to Topic 4.2

 Topic 4.2 requires a minimum cost share of 20% cost share. Under this workforce development topic, cost share will be an important measure of the level of commitment from critical project partners. By requiring cost share, SETO seeks industry partners that will provide financial and other resources, guidance and support to generate applications that will fund the creation of training programs that are high-impact and relevant to the power systems industry.

To assist applicants in calculating proper cost share amounts, EERE has included a cost share information sheet and sample cost share calculation as Appendices A and B to this FOA.

Questions about this FOA? Email <u>SETO,FOA@ee.doe.qov</u>.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@ha.doe.qov</u>

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i. Legal Responsibility

Although the cost share requirement applies to the project as a whole, including work performed by members of the project team other than the Prime Recipient, the Prime Recipient is legally responsible for paying the entire cost share. The Prime Recipient's cost share obligation is expressed in the Assistance Agreement as a static amount in U.S. dollars (cost share amount) and as a percentage of the Total Project Cost (cost share percentage). If the funding agreement is terminated prior to the end of the project period, the Prime Recipient is required to contribute at least the cost share percentage of total expenditures incurred through the date of termination.

The Prime Recipient is solely responsible for managing cost share contributions by the Project Team and enforcing cost share obligation assumed by Project Team members in subawards or related agreements.

ii. Cost Share Allocation

Each Project Team is free to determine how best to allocate the cost share requirement among the team members. The amount contributed by individual Project Team members may vary, as long as the cost share requirement for the project as a whole is met.

iii. Cost Share Types and Allowability

Every cost share contribution must be allowable under the applicable Federal cost principles, as described in Section IV.J.1 of the FOA. In addition, cost share must be verifiable upon submission of the Full Application.

Project Teams may provide cost share in the form of cash or in-kind contributions. Cost share may be provided by the Prime Recipient, Subrecipients, or third parties (entities that do not have a role in performing the scope of work). Vendors/Contractors may not provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

Cash contributions include, but are not limited to: personnel costs, fringe costs, supply and equipment costs, indirect costs and other direct costs.

In-kind contributions are those where a value of the contribution can be readily determined, verified and justified but where no actual cash is transacted in securing the good or service comprising the contribution.

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Allowable in-kind contributions include, but are not limited to: the donation of volunteer time or the donation of space or use of equipment.

Project teams may use funding or property received from state or local governments to meet the cost share requirement, so long as the funding was not provided to the state or local government by the Federal Government.

The Prime Recipient may not use the following sources to meet its cost share obligations including, but not limited to:

- Revenues or royalties from the prospective operation of an activity beyond the project period;
- Proceeds from the prospective sale of an asset of an activity;
- Federal funding or property (e.g., Federal grants, equipment owned by the Federal Government); or
- Expenditures that were reimbursed under a separate Federal Program.

Project Teams may not use the same cash or in-kind contributions to meet cost share requirements for more than one project or program.

Cost share contributions must be specified in the project budget, verifiable from the Prime Recipient's records, and necessary and reasonable for proper and efficient accomplishment of the project. As all sources of cost share are considered part of total project cost, the cost share dollars will be scrutinized under the same Federal regulations as Federal dollars to the project. Every cost share contribution must be reviewed and approved in advance by the Contracting Officer and incorporated into the project budget before the expenditures are incurred.

Applicants are encouraged to refer to 2 CFR 200.306 as amended by 2 CFR 910.130 & 10 CFR 603.525-555 for additional guidance on cost sharing.

iv. Cost Share Contributions by FFRDCs

Because FFRDCs are funded by the Federal Government, costs incurred by FFRDCs generally may not be used to meet the cost share requirement. FFRDCs may contribute cost share only if the contributions are paid directly from the contractor's Management Fee or another non-Federal source.

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v. Cost Share Verification

Applicants are required to provide written assurance of their proposed cost share contributions in their Full Applications.

Upon selection for award negotiations, applicants are required to provide additional information and documentation regarding their cost share contributions. Please refer to Appendix A of the FOA.

vi. Cost Share Payment

EERE requires Prime Recipients to contribute the cost share amount incrementally over the life of the award. Specifically, the Prime Recipient's cost share for each billing period must always reflect the overall cost share ratio negotiated by the parties (i.e., the total amount of cost sharing on each invoice when considered cumulatively with previous invoices must reflect, at a minimum, the cost sharing percentage negotiated). As FFRDC funding will be provided directly to the FFRDC(s) by DOE, Prime Recipients will be required to provide project cost share at a percentage commensurate with the FFRDC costs, on a budget period basis, resulting in a higher interim invoicing cost share ratio than the total award ratio.

In limited circumstances, and where it is in the government's interest, the EERE Contracting Officer may approve a request by the Prime Recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. Regardless of the interval requested, the Prime Recipient must be up-to-date on cost share at each interval. Such requests must be sent to the Contracting Officer during award negotiations and include the following information: (1) a detailed justification for the request; (2) a proposed schedule of payments, including amounts and dates; (3) a written commitment to meet that schedule; and (4) such evidence as necessary to demonstrate that the Prime Recipient has complied with its cost share obligations to date. The Contracting Officer must approve all such requests before they go into effect.

C. Compliance Criteria

Letters of Intent, Concept Papers, Full Applications, and Replies to Reviewer
Comments must meet all Compliance criteria listed below or they will be
considered noncompliant. EERE will not merit review or consider noncompliant
submissions, including Letters of Intent, Concept Papers, Full Applications, and
Replies to Reviewer Comments that were: submitted through means other than
EERE Exchange; submitted after the applicable deadline; and/or submitted
incomplete. EERE will not extend the submission deadline for applicants that fall to
submit required information due to server/connection congestion.

i. Compliance Criteria

Letters of Intent

Letters of Intent are deemed compliant if:

 The applicant entered all required information and clicked the "Create Concept Paper/Full Application" button in EERE Exchange by the deadline stated in the FOA.

Concept Papers

Concept Papers are deemed compliant if:

- · The applicant submitted a compliant Letter of Intent;
- The Concept Paper complies with the content and form requirements in Section IV.C of the FOA; and
- The applicant successfully uploaded all required documents and clicked the "Submit" button in EERE Exchange by the deadline stated in this FOA.

Full Applications

Full Applications are deemed compliant if:

- The applicant submitted a compliant Letter of Intent and compliant Concept Paper;
- The Full Application complies with the content and form requirements in Section IV.D of the FOA; and
- The applicant successfully uploaded all required documents and clicked the "Submit" button in EERE Exchange by the deadline stated in the FOA.

Replies to Reviewer Comments

Replies to Reviewer Comments are deemed compliant if:

 The Reply to Reviewer Comments complies with the content and form requirements in Section IV.E of the FOA; and

Questions about this FOA? Emall <u>SETO.FOA@ee.doe.gov</u>. Problems with EERE Exchange? Emall EERE- <u>EERE-ExchanaeSupport@ha.doe.gov</u> Include FOA name and number in subject line. • The applicant successfully uploaded all required documents to EERE Exchange by the deadline stated in the FOA.

Document Submission

Required Documents Checklist for Concept Paper Submission

Please check this page when submitting the application to help ensure the application is

complete and compliant.

| complete and | | | | and the second second second second | | |
|--------------|--|----------------|----------|-------------------------------------|-------------|--|
| Completed | Deadine | Submission == | Format | Optional/ | FOA Section | |
| (X) | | | | = Jylandatory | | |
| | 2018 | Cover Page | doc. or | Mandatory | IV.C.i. | |
| | | (1 Page Max) | .docx or | | (Page 51) | |
| | | | pdf | | | |
| | 2018 | Project | doc. or | Mandatory | IV.C.I. | |
| | | Description | .docx or | | (Page 50) | |
| | ' | (3 Page Max) | pdf | | | |
| | 2018 | Summary Slide | .ppt or | Mandatory | IV.C.I. | |
| | | · | .pptx | | (Page 51) | |
| Completed | | | | | | |
| | Cost Share n | III.B. | | | | |
| | | (Pages 38-42) | | | | |
| | | Appendix A & B | | | | |
| | Concept Pa | Cover Page | | | | |
| | on the due | | | | | |
| | Page limit g | IV.C.I. | | | | |
| | anything over the page limit from the .doc or .docx application file prior to review to prevent unfair | | | | (Page 50) | |
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|] | advantage) | | - | | | |

Required Documents Checklist for Full Applications

Please check this page when submitting the application to help ensure the application is

complete and compliant.

| Completed Deadline (X) | -Submission # | Format: | Optional / Mandatory | FOA Section, |
|------------------------|------------------|---------|----------------------|--------------|
| 2018 | Technical | doc. or | Mandatory | IV.D.ii. |
| | Volume | .docx | | (Page 54) |
| | } | or pdf_ | | |
| 2018 | SF-424 | ,pdf | Mandatory | IV.D,iii. |
| | Application | | | (Page 60) |
| | for Federal | | | |
| | Assistance | | | |

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| | 2018 | Summary | .ppt or | Mandatory | IV.D.iv. |
|-----------|---|----------------------|------------|-----------------------|------------------|
| | | Slide | .pptx | | (Page 61) |
| | 2018 | Authorization | .pdf | Mandatory | IV.D.v. |
| | | from | | | (Page 61) |
| | | cognizant | | | |
| | | Contracting | | | |
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| | } | FFRDC, if applicable | | | |
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| | | Lobbying | | , | (Page 62) |
| 1 | | Activities | | | |
| Completed | mpleted Other mandatory full application compliance criteria. | | | | FOA Section |
| | Cost Share met? Cost share % = (Applicant | | | III.B. | |
| | Contribution)/(EERE Contribution + | | | (Pages 38-42) | |
| | Applicant Contribution) | | | Appendix A & B | |
| | Applicatio | Cover Page | | | |
| | Page limit | IV.D.Ji. | | | |
| | anything c | (Pages 54-60) | | | |
| 1 | application file prior to review to prevent unfair | | | | } |
| | advantage | | | | |
| | Foreign Entity Participation Walver, if necessary | | | | Appendix C |
| | Performar | nce of Work in | the United | d States Waiver, if | Appendix C |
| | necessary | | | | |
| | Complete | d registration r | equiremen | nts (DUNS, SAM, etc.) | See Registration |
| | | | | | Requirements |

D. Responsiveness Criteria

All "Applications Specifically Not of Interest," as described in Section I.C of the FOA, are deemed nonresponsive and are not reviewed or considered.

E. Other Eligibility Requirements

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Problems with EERE Exchange? Email <u>EERE-EERE-ExchangeSupport@hq.doe.gov</u>

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Requirements for DOE/NNSA and non-DOE/NNSA Federally Funded Research and Development Centers Included as a Subrecipient

DOE/NNSA and non-DOE/NNSA FFRDCs may be proposed as a Subrecipient on another entity's application subject to the following guidelines:

1. Authorization for non-DOE/NNSA FFRDCs

The Federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The use of a FFRDC must be consistent with its authority under its award.

2. Authorization for DOE/NNSA FFRDCs

The cognizant Contracting Officer for the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization:

Authorization is granted for the [Enter-Laporatory Name] Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory.

3. Value/Funding

The value of and funding for the FFRDC portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE/NNSA FFRDC contractor through the DOE field work proposal system and non-DOE/NNSA FFRDC through an interagency agreement with the sponsoring agency.

4. Cost Share

Although the FFRDC portion of the work is usually excluded from the award to a successful applicant, the applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC's portions of the project.

5. Responsibility

The Prime Recipient will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues including, but not limited to disputes and claims arising out of any agreement between the Prime Recipient and the FFRDC contractor.

6. Limit on FFRDC Effort

The FFRDC effort, in aggregate, shall not exceed 49.9% of the total estimated cost of the project, including the applicant's and the FFRDC's portions of the effort.

F. Limitation on Number of Concept Papers and Full Applications Eligible for Review

Applicants may submit more than one letter of intent, concept paper, and corresponding Full Application to this FOA, provided that each application describes a unique, scientifically distinct project.

G. Questions Regarding Eligibility

EERE will not make eligibility determinations for potential applicants prior to the date on which applications to this FOA must be submitted. The decision whether to submit an application in response to this FOA lies solely with the applicant.

IV. Application and Submission Information

A. Application Process

The application process will include four phases: a Letter of Intent Phase, a Concept Paper phase, a Full Application phase, and a Reply to Reviewer Comments phase.

Only applicants who have submitted a letter of Intent will be eligible to submit a concept paper. In addition, submitting a compliant Concept Paper is required in order to be eligible to submit a Full Application. Replies to reviewer comments are optional but must be compliant if submitted. At each phase, EERE performs an initial compliance review of the applicant submissions to determine whether they meet the requirements of Section III of the FOA. EERE will not review or consider submissions that do not meet the requirements of Section III. All submissions must conform to the following form and content requirements, including maximum page lengths (described below) and must be submitted via EERE Funding Opportunity Exchange website at https://eere-exchange.energy.gov/, unless specifically stated otherwise. EERE will not review or consider submissions submitted through means other than EERE Exchange, submissions that are submitted after the applicable

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Problems with EERE Exchange? Email <u>EERE-ExchangeSupport@ha.doe.aov</u>

Include FOA name and number in subject line.

submission deadline, and incomplete submissions. EERE will not extend deadlines for applicants who fail to submit required information and documents due to server/connection congestion. The EERE Funding Opportunity Exchange website will create the submission record and assign a Control Number when an applicant clicks the "Apply" button, completes the Letter of intent initial details page then clicks the "Create Concept Paper" button located at the bottom of the page. The control number begins with the FOA number and is then followed by a dash and 4 random numbers (e.g., 1840-1576). The control number will remain the same through the entire application process for each unique application. This control number must be included with all Application documents, as described below.

The Letter of Intent, Concept Paper, Full Application, and Reply to Reviewer Comments must conform to the following requirements:

- Each must be submitted in Adobe PDF format unless stated otherwise.
- Each must be written in English.
- All pages must be formatted to fit on 8.5 x 11 inch paper with margins not less than one inch on every side. Use a black font color, and a font size of 12 point or larger (except in figures or tables, which may be 10 point font). A symbol font may be used to insert Greek letters or special characters, but the font size requirement still applies. References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and endnotes are counted toward the maximum page requirement. Use of Times New Roman typeface is recommended, illegible submissions will not be reviewed.
- The Control Number must be prominently displayed on the upper right corner of the header of every page. Page numbers must be included in the footer of every page.
- Each submission must not exceed the specified maximum page limit, including cover page, charts, graphs, maps, and photographs when printed using the formatting requirements set forth above and single spaced. If applicants exceed the maximum page lengths indicated below, EERE will review only the authorized number of pages and disregard any additional pages.

Applicants are responsible for meeting each submission deadline. Applicants are strongly encouraged to submit their Letters of Intent, Concept Papers, and Full Applications at least 48 hours in advance of the submission deadline. Under normal conditions (i.e., at least 48 hours in advance of the submission deadline), applicants should allow at least 1 hour to submit a Letter of Intent, Concept Paper, Full Application, or Reply to Reviewer Comments. Once the Letter of Intent, Concept Paper, Full Application, or Reply to Reviewer Comments is submitted in EERE

Questions about this FOA? Email <u>SETO.FOA@ee.doe.gov</u>.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@hq.doe.gov</u>

Include FOA name and number in subject line.

Exchange, applicants may revise or update that submission until the expiration of the applicable deadline. If changes are made, the applicant must resubmit the Letter of Intent, Concept Paper, Full Application, or Reply to Reviewer Comments before the applicable deadline.

All Full Applications that pass the initial eligibility review will undergo comprehensive technical merit review according to the criteria identified in Section V.A.2 of the FOA.

i. Additional Information on EERE Exchange

EERE Exchange is designed to enforce the deadlines specified in this FOA. The "Apply" and "Submit" buttons will automatically disable at the defined submission deadlines. This means applicants in the process of submitting an application will be locked out and unable to complete the process (see cover page for application deadlines). Should applicants experience problems with Exchange, the following information may be helpful.

Applicants that experience issues with submission or have questions about EERE Funding Opportunity Exchange website functionality should first contact the Exchange helpdesk email address for assistance <u>EERE-ExchangeSupport@hq.doe.gov</u>). If the situation cannot be resolved over email, applicants may also call the EERE-Exchange helpdesk at 202-287-1090, however this line is likely to be busy on application deadline dates. The Exchange helpdesk will assist Applicants in resolving issues.

Applicants that experience issues with submissions that result in late submissions: In the event that an applicant experiences technical difficulties so severe that they are unable to submit their application by the deadline, the applicant should contact the Exchange helpdesk for assistance (EERE-ExchangeSupport@hq.doe.gov). The Exchange helpdesk and/or the EERE Exchange system administrators will assist the applicant in resolving all issues (including finalizing submission on behalf of and with the applicant's concurrence). PLEASE NOTE, however, those applicants who are unable to submit their application on time due to their waiting until the last minute when network traffic is at its heaviest to submit their materials will not be able to use this process. Note that EERE-Exchange can create a report documenting when a login occurred and when a submission was started to determine specifically when issues have occurred.

B. Application Forms

The application forms and instructions are available on EERE Exchange. To access these materials, go to https://eere-Exchange.energy.gov and select the appropriate funding opportunity number.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 20MB. Files in excess of 20MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 20MB, please attempt to reduce the size by compressing the file and/or images and figures within the file. If a file still exceeds 20MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect. For example:

ControlNumber_LeadOrganization_Project_Part_1
ControlNumber_LeadOrganization_Project_Part_2, etc.

i. Content and Form of the Letter of Intent

To be eligible to submit a Concept Paper and Full Application, applicants must submit a Letter of Intent by the specified due date and time. Letters of Intent will be used by EERE to plan for the merit review process. The letters should not contain any proprietary or sensitive business information. The letters will not be used for down-selection purposes, and do not commit an applicant to submit an application.

EERE will not review or consider ineligible Letters of Intent (see Section III of the FOA).

Each applicant must provide the following information as part of the Letter of Intent:

- Project Title;
- Lead Organization;
- Organization Type (Business < 500 Employees; Business > 1000 Employees; Business 500-1000 Employees; Federally Funded Research and Development Center (FFRDC); Government-Owned, Government Operated; Non-Profit; University);
- Whether the Application has been previously submitted to EERE;
- % of effort contributed by the Lead Organization;
- The Project Team, including:
 - o The Principal Investigator for the Prime Recipient;
 - o Team Members (i.e., Subrecipients); and

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- Key Participants (i.e., Individuals who contribute in a substantive, measureable way to the execution of the proposed project);
- The specific FOA subtopic area being addressed and the Project Focus Area(s): e.g., Photovoltaics, CdTe deposition, Reliability
 - Topic/subtopic identification will help sort applications and determine reviewer expertise areas needed for each application.
- Abstract The abstract provided should be not more than 200 words in length, and should provide a truncated explanation of the proposed project.

C. Content and Form of the Concept Paper

To be eligible to submit a Full Application, applicants must submit a Concept Paper by the specified due date and time.

i. Concept Paper Content Requirements

EERE will not review or consider non-compliant Concept Papers (see Section III of the FOA).

Each Concept Paper must be limited to a single concept or technology. Unrelated concepts and technologies should not be consolidated into a single Concept Paper.

The Concept Paper must conform to the following content requirements:

| - Section - | Descript(on Same |
|-----------------------------------|---|
| Cover Page [1 Page Max] | Project Title The specific FOA SubTopic Area being addressed and Project Focus Area(s): e.g., Photovoltaics, CdTe deposition, Reliability (Note: This will help sort applications and determine reviewer expertise areas needed for each application so careful consideration here is helpful.) The Project Team and contact information, including: The Principal Investigator for the Prime Recipient (Technical Point of Contact). Team Members (i.e., Subrecipients); and Key Participants (i.e., Individuals who contribute in a substantive, measureable way to the execution of the proposed project); and Budget - Include a high-level overview of estimated total project budget Any Statements regarding confidentiality No additional information, such as an application abstract, should be included on this page |
| Project Description [4 Pages Max] | Applicants are required to describe succinctly: The proposed technology or solution, including its basic operating principles and how it is unique and innovative; The current state-of-the-art in the relevant field and application, including key shortcomings, limitations, and challenges; How the proposed project will overcome the shortcomings, limitations, and challenges in the relevant field and application; The potential impact, with justification, that the proposed project would have on the relevant field and application and its relevance to industry and SETO goals as described in section i.B include a clear and concise (high-level) statement of the midpoint and end goals of the project. Each goal should be quantifiable and verifiable. The most challenging risks the proposed project will likely face and mitigation strategies The aspects of the team that are most relevant to the proposed work (i.e. applicant experience in the field and in working together, equipment and facilities access, etc.) Applicants may provide graphs, charts, or other data to supplement their Technology Description, however, this supplemental information will count toward the page limit. In addition, an unlimited number of reference pages, one page letters of support and/or 1 page resumes of project participants may be submitted but are not required. |

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Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@ha.doe.gov</u>

include FOA name and number in subject line.

Summary Slide [Not included in page limit]

There is a PPT file template that can be downloaded from EERE Exchange.

Applicants are required to provide a single PowerPoint slide summarizing the proposed project. The slide must be submitted in Microsoft PowerPoint format. This slide is used during the evaluation process and should be legible when viewed on a screen in a conference room.

The Summary Slide requires the following information:

- The project's key idea/takeaway
- A description of the project's impact
- Proposed project goals
- Any key graphics (illustrations, charts, and/or tables)
- Project title, Prime Recipient, Principal Investigator, and Subrecipients
- Requested SETO funds and proposed applicant cost share (if applicable)

EERE makes an independent assessment of each Concept Paper based on the criteria in Section V.A.i of the FOA. EERE will encourage a subset of applicants to submit Full Applications. Other applicants will be discouraged from submitting a Full Application. An applicant who receives a "discouraged" notification may still submit a Full Application. EERE will review all eligible Full Applications. However, by discouraging the submission of a Full Application, EERE intends to convey its lack of programmatic interest in the proposed project in an effort to save the applicant the time and expense of preparing an application that is unlikely to be selected for award negotiations.

EERE may include general comments provided from reviewers on an applicant's Concept Paper in the encourage/discourage notification posted on EERE Exchange at the close of that phase.

D. Content and Form of the SIPS Application

To be eligible to submit a Full Application, applicants must submit a SIPS application by the specified full application/SIPS application due date and time.

ii. Concept Paper and SIPS Applications Content Requirements
In an effort to limit the resources required by applicants to apply for the
Small and Innovative Projects in Solar (SIPS) (from Topic 2.1 and 3.1) a
simplified application process will be used. Following submission of an LOI,

Questions about this FOA? Email <u>SETO.FOA@ee.doe.qov</u>.

Problems with EERE Exchange? Email <u>EERE-ExchangeSupport@hq.doe.qov</u>
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there is an expedited concept paper phase for SIPS projects. SIPS projects do not need to submit a concept paper by the deadline listed on the cover paper; Topic Areas 2.1 and 3.1 SIPS applications must Instead resubmit their Letter of Intent again as the concept paper and also include a summary slide by the concept paper deadline to bypass an administrative software restriction of EERE Exchange. Full SIPS applications should be submitted by the full application and SIPS Application deadline, and all SIPS full applications should complete their submissions using the format provided in this section. Fallure to complete these required process steps will result in an inability to submit a SIPS application for review.

All SIPS Application documents must be marked with the Control Number issued to the applicant.

EERE will not review or consider non-compliant SIPS applications

Each application must be limited to a single concept or technology.

Unrelated concepts and technologies should not be consolidated into a single application.

The SIPS application must conform to the following content requirements:

| Section | Description |
|-----------------------------------|---|
| Cover Page [1 Page Max] | Project Title The specific FOA SubTopic Area being addressed and Project Focus Area(s): e.g., Photovoltaics, CdTe deposition, Reliability (Note: This will help sort applications and determine reviewer expertise areas needed for each application so careful consideration here is helpful.) The Project Team and contact information, including: The Principal Investigator for the Prime Recipient (Technical Point of Contact). Team Members (i.e., Subrecipients); and Key Participants (i.e., individuals who contribute in a substantive, measureable way to the execution of the proposed project); and Budget - Include a high-level overview of estimated total project budget Any Statements regarding confidentiality No additional Information, such as an application abstract, should be included on this page |
| Project Description [4 Pages Max] | Applicants are required to describe succinctly: The proposed technology or solution, including its basic operating principles and how it is unique and innovative; The current state-of-the-art in the relevant field and application, including key shortcomings, limitations, and challenges; How the proposed project will overcome the shortcomings, limitations, and challenges in the relevant field and application; The potential impact, with justification, that the proposed project would have on the relevant field and application and its relevance to industry and SETO goals as described in section i.B Include a clear and concise (high-level) statement of the midpoint and end goals of the project. Each goal should be quantifiable and verifiable. The most challenging risks the proposed project will likely face and mitigation strategies The aspects of the team that are most relevant to the proposed work (i.e. applicant experience in the field and in working together, equipment and facilities access, etc.) Applicants may provide graphs, charts, or other data to supplement their Technology Description, however, this supplemental information will count toward the page limit. In addition, an unlimited number of reference pages, one page letters of support and/or 1 page resumes of project participants may be submitted but are not required. |

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Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@hq.doe.gov</u>

Include FOA name and number in subject line.

Summary Slide [Not included in page limit]

There is a PPT file template that can be downloaded from EERE Exchange.

Applicants are required to provide a single PowerPoint slide summarizing the proposed project. The slide must be submitted in Microsoft PowerPoint format. This slide is used during the evaluation process and should be legible when viewed on a screen in a conference room.

The Summary Slide requires the following information:

- The project's key idea/takeaway
- A description of the project's impact
- · Proposed project goals
- Any key graphics (illustrations, charts, and/or tables)
- Project title, Prime Recipient, Principal Investigator, and Subrecipients
- Requested SETO funds and proposed applicant cost share (if applicable)

EERE makes an independent assessment of each SIPS application based on the criteria in Section V.A.iI of the FOA.

E. Content and Form of the Full Application

Applicants must submit a Full Application by the specified due date and time to be considered for funding under this FOA. Applicants must complete the following application forms found on the EERE Exchange website at https://eere-exchange.energy.gov/, in accordance with the instructions.

Applicants will have approximately 30 days from receipt of the Concept Paper Encourage/Discourage notification on EERE Exchange to prepare and submit a Full Application. Regardless of the date the applicant receives the Encourage/Discourage notification, the submission deadline for the Full Application remains the date and time stated on the FOA cover page.

All Full Application documents must be marked with the Control Number issued to the applicant.

i. Full Application Content Requirements

EERE will not review or consider ineligible Full Applications (see Section III of the FOA).

Questions about this FOA? Email <u>SETO.FOA@ee.doe.gov</u>.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@ha.doe.gov</u>

Include FOA name and number in subject line.

Each Full Application shall be limited to a single concept or technology. Unrelated concepts and technologies shall not be consolidated in a single Full Application.

Full Applications must conform to the following requirements:

| Submission | Components | File Name |
|---------------------|--|---|
| Full Application | Technical Volume | ControlNumber_LeadOrganization_Technic alVolume |
| (PDF, unless | SF-424 Application | ControlNumber_LeadOrganization_App424 |
| stated | Summary Slide (1 slide limit, Microsoft | ControlNumber_LeadOrganization_Slide |
| otherwise) | PowerPoint format) | |
| | Authorization from cognizant | ControlNumber_LeadOrganization_FFRDCA |
| | Contracting Officer for FFRDC, if | uth |
| | applicable | |
| | Foreign Entity and Performance of Work | ControlNumber_LeadOrganization_Waiver |
| | in the United States waiver requests, if | |
| | applicable | |
| A the spitchers the | SF-LLL - Disclosure of Lobbying Activities | ControlNumber_LeadOrganization_SFLLL |

Note: The maximum file size that can be uploaded to the EERE Exchange website is 20MB. Files in excess of 20MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 20MB, please attempt to reduce the size by compressing the file and/or images and figures within the file. If a file still exceeds 20MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect. For example:

ControlNumber_LeadOrganization_Project_Part_1
ControlNumber_LeadOrganization_Project_Part_2, etc.

EERE will not accept late submissions that resulted from technical difficulties due to uploading files that exceed 20MB.

EERE provides detailed guidance on the content and form of each component below.

ii. Technical Volume

The Technical Volume must be submitted in Adobe PDF format or Microsoft word (.doc or .docx). The Technical Volume must conform to the following content and form requirements, including maximum page lengths. If applicants exceed the maximum page lengths indicated below,

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Problems with FERE Exchange? Email <u>EERE-ExchangeSupport@ha.doe.gov</u>
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EERE will review only the authorized number of pages and disregard any additional pages. This volume must address the Merit Review Criteria as discussed in Section V.A.2 of the FOA. Save the Technical Volume in a single PDF file using the following convention for the title: "ControlNumber_LeadOrganization_TechnicalVolume".

Applicants must provide sufficient citations and references to the primary research literature to justify the claims and approaches made in the Technical Volume. However, EERE and reviewers are under no obligation to review cited sources.

The Technical Volume to the Full Application may not be more than 15 pages, including the cover page, table of contents, charts, graphs, maps, photos, or other graphics, and must include all of the information in the table below. There are not strict page limits on sections to allow applicants the flexibility to structure the application in a way to best articulate the project and address the content requirements. The applicant should consider the weighting of each of the evaluation criteria (see Section V.A.2 of the FOA) when preparing the Technical Volume.

| Area(s): e.g., Photovoltaics, CdTe deposition, Reliability o (Note: This will help sort applications and determine revie expertise areas needed for each application so careful consideration here is helpful.) • The Project Team and contact information, including: o The Principal Investigator for the Prime Recipient (Technic Point of Contact). o Team Members (i.e., Subrecipients); and o Key Participants (i.e., individuals who contribute in a subs measureable way to the execution of the proposed project • Budget - Include a high-level overview of estimated project bud Listing an estimated breakdown for the project, separated by te partners and only these high level activity categories o a. Personnel | n/Page.limit = : | /PAGE LIMIT DESCRIPTION |
|--|------------------|--|
| o c. Travel o d. Equipment o e. Supplies o f. Contractual o g. Construction | Page Page | The specific FOA SubTopic Area being addressed and Project Focus Area(s): e.g., Photovoltaics, CdTe deposition, Reliability o (Note: This will help sort applications and determine reviewer expertise areas needed for each application so careful consideration here is helpful.) The Project Team and contact information, including: o The Principal Investigator for the Prime Recipient (Technical Point of Contact). o Team Members (i.e., Subrecipients); and o Key Participants (i.e., individuals who contribute in a substantive measureable way to the execution of the proposed project); and Budget - Include a high-level overview of estimated project budget: Listing an estimated breakdown for the project, separated by teaming partners and only these high level activity categories o a. Personnel o b. Fringe Benefits o c. Travel o d. Equipment o e. Supplies o f. Contractual |

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Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@ha.doe.gov</u>
Include FOA name and number in subject line.

application should include a justification for the impact assessment approach and impact claim (e.g. performance improvement expectations and ramifications, cost model with references, future market opportunity size, etc.) as well as a description of the pathway to achieve stated impact after the end of the proposed project's period of performance.

Summary Statement of Project Objectives (SOPO)

Provide a succinct description of the specific activities to be conducted over the proposed period of performance. Descriptions should contain enough detail to convey and disclose the work occurring (i.e., vague statements such as "we will then complete a proprietary process" are unacceptable). A summary of the general work involved is helpful for the review process, however, spending a tremendous amount of time outlining every detail of the project is not warranted until after selection. It is the Applicant's responsibility to prepare an adequately detailed summary SOPO to convince reviewers that the proposed project and team can meet the goals of the funding program. The Summary SOPO should contain the following information:

- Scope Summary: The applicant should provide a summary description
 of the overall work scope and approach to achieving the project
 objectives/goals. The 'Scope Summary' should describe the work to be
 accomplished and how the applicant will achieve the milestones and
 achieve the final project goal(s).
- Tasks It is critical that the overall project objective is broken into separate Task sections that are clearly linked to, and combine to result in, the project milestone and final objective. A Task is an executable or an operation that is enabled by the collection of subtasks associated with it. As such, Tasks represent something more than just the collection of data. Each task description should include a budget amount for each year of proposed work.
- (Optional) Sub tasks may be included if further detail of the
 breakdown of the work is needed. Each Task may be broken out into
 component Subtask sections to specify the activities that will be
 conducted to accomplish the task. A Subtask describes a specific
 activity that is designed to deliver a device, tool, or technique to
 collect data. The approach through which the activity is performed is
 designed to allow the associated task to have a determinant outcome.
- Project Schedule (Gantt Chart or similar): The applicant should provide a schedule for the entire project, including task and subtask durations, milestones, and go/no-go decision points.
- Milestone Summary Table, or List:

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| 0 | The applicant should provide a summary of appropriate | |
|---|--|---|
| | performance targets for the project, termed 'milestones.' There | |
| | should be a sufficient number of milestones to demonstrate the applicant understands the steps it will take to achieve the | ı |
| | | l |
| | project objectives. A milestone summary is often helpful for review, Milestones may | l |
| Ö | be consolidated into a single table, list, and/or listed separately | ł |
| | at the bottom of the task/subtask description they are relevant | |
| | to. It is up to the applicant to display milestones in the way that | l |
| | is most appropriate to their proposal. | İ |
| a | Include the baseline capability of the applicant team. It is | ĺ |
| U | important to document what the team has demonstrated or is | ١ |
| | building off of to achieve the project objectives. The baseline | ĺ |
| | capability is the effort that can be reliably controlled with an end | 1 |
| | result that is repeatable. | ĺ |
| Q | Include a Go/No-Go Decision Point: The applicant should | j |
| | provide a summary of project-wide go/no-go decision points at | 1 |
| | the midpoint of the project in the Summary SOPO. A go/no-go | |
| | decision point is a risk management tool and a project | |
| | management best practice to ensure that, for the current phase | Į |
| | or period of performance, project success is definitively achieved | ١ |
| | and potential for success in future phases or periods of | 1 |
| | performance is evaluated, prior to actually beginning the | |
| | execution of future phases. The Applicant should also provide | |
| | the specific technical criteria to be used to make the go/no-go | 1 |
| | decision. The summary provided should be consistent with the | |
| | SOPO. Go/no-go decision points are considered "SMART" and | |
| | can fulfill the requirement for an annual SMART milestone. Include an End of Project Goal: The applicant should provide a | ļ |
| 0 | summary of the end of project goal(s). | |
| 0 | Milestones should not be activity-based (i.e., provide a report, | ļ |
| Ü | talk to customers, perform experiments); they should instead be | |
| | SMART milestones (Specific, Measurable, Achlevable, Relevant, | |
| | and Timely) and must demonstrate a definitive achievement of | |
| | progress rather than simply performing work. | |
| Ó | Milestones should represent achievement of a specific mission- | |
| | related outcome as opposed to completion of task that may or | |
| | may not achieve progress towards FOA related goals. For | |
| | example 'make 100 phone calls' or 'explore 3 materials' are | |
| | tasks that could be achieved without any measurable | |
| | progress towards substantive goals. SETO is not interested in | |
| | these types of milestones. Conversely 'sell 10 widgets' or | |
| | 'achieve X% efficiency' relies on validation from | |
| | entities/principles outside of the team's and represent | |
| | measurable progress towards substantive goals related to the | |
| | | |

 Although reports are required as part of the cooperative agreement, they cannot be used as milestones. Reports

Questions about this FOA? Email <u>SETO.FOA@ee.doe.gov.</u>

Problems with EERE Exchange? Email <u>EERE-ExchangeSupport@ha.doe.gov.</u>

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- summarize observations, and milestones validate functionality.
- The applicant should also provide the means by which the milestone will be verified. Third-party or unbiased validation is superior to self-verification of results.
- These milestones will be carefully reviewed, and their quality is tied to the scoring criteria of this FOA. Imprecise or unambitious milestones will therefore likely result in low scores and non-selection.

Example Summary SOPO Structure

Scope Summary

[Information articulated in other sections of the Application can be referenced and do not need to be repeated here. Include any new information that is needed to help define and understand the scope of the work required to complete the project. If needed, this space could be used to provide a brief description of the rationale for why the applicant has organized the tasks in the way they have. I

Millstone Summary Table

[Optional example format, however, milestones should be included somewhere in the SOPO Summary in the format most appropriate to the applicant's proposal.

| F | Months After | | Method to Verify |
|-------------------|---------------|--------------------------------|----------------------------|
| Millostone # | Project Start | | Measurable Result |
| | Project state | | A method that could not be |
| , | 0: | Define Beginning capability | fairely outly claimed that |
| | | | shows the result is valid |
| | | Measurable result that | A method that could not be |
| 1 | 3 | retires rick or validates | falsely claimed that shows |
| | | g critical assumption | the result is valid |
| <u></u> | | H cuttical assemblion | II |
| 1 | 6 | | |
| 3 | 6 | <u> </u> | |
| 4 | 9 | | |
| GO/NO-GO | 12 | n | 19 |
| Decision Point #1 | | | |
| GO/No-GO | 12 | И | |
| Decision Point #2 | | | " |
| 60/No-00 | 12. | R | h |
| Decision Point #3 | | | · |
| 4 | 15 | - 1 | U |
| 5 | 18 | li li | IL |
| Б | 18 | | 11 |
| 7 | 12 | II | 11 |
| 8 | 21 | - 11 | μ |
| End of Project | 24 | I4 | II |
| Goal #1 | | | " |
| End of Project | 2.1 | (I | ı. |
| Goal #2 | | | μ |
| End of Project | 24 | ļī. | н |
| Goal #3 | | | <u> </u> |

Project Schedule:

[insert Project Schedule (Gantt Chart or similar), applicants may list milestones (with verification process) under the relevant tasks or subtasks and then include in the schedule rather than creating a separate milestone table]

| 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1 | Task 1: Distinctive Title, Date range of the task in months (M1-M4), Estimated | | |
|--|---|--|--|
| | total task budget | | |
| | Fallet and banklet | | |
| | Task Description: Task summaries shall explicitly identify: | | |
| | A concise statement of the objectives of that task | | |
| | The work that is to be accomplished and how it will be accomplished | | |
| | | | |
| | (write: "we will" often to structure this in the right way). Tasks should | | |
| | be designed to retire significant risks i.e. technology, and | | |
| | manufacturability risks for hardware applications. Each task can | | |
| | address one or multiple risk categories. | | |
| | (Optional) Subtask 1.1: Distinctive title, Date range (M1-M2) | | |
| | (Ophonal) Subtask 1.1. Distinctive tide, Date range (wit-wit) | | |
| | (Optional)Subtask description: Subtask descriptions: | | |
| | Explicitly identify the task objectives/outcomes being addressed and | | |
| | | | |
| | a concise statement of the objectives of that subtask. | | |
| | Describe the work and techniques that will be used and the expected | | |
| | result that will be generated from the effort. | | |
| | · | | |
| | (Ontigue)) Subtack 1.7: Dictinctive title Date range (M2-M7) | | |
| | (Optional) Subtask 1.2: Distinctive title, Date range (M2-M7) | | |
| | (Continue until all Task 1 subtasks are listed) | | |
| | Task 2: (Continue in the format above until all tasks and subtasks are listed) | | |
| | | | |
| | Subtask 2.1: | | |
| Team Qualifications | The Team Qualifications and Resources should contain information such as: | | |
| and Resources | Project Team's unique qualifications and expertise, including those of | | |
| | key Subrecipients (if applicable). | | |
| | Project Team's existing equipment and facilities that will facilitate the | | |
| | successful completion of the proposed project; include a justification | | |
| | of any new equipment or facilities requested as part of the project. | | |
| | The time commitment of the key team members to support the | | |
| | project. | | |
| | The technical services to be provided by DOE/NNSA FFRDCs, if | | |
| | applicable. | | |
| | The overall approach to and organization for managing the work | | |
| | The roles of each Project Team member | | |
| | For multi-organizational or multi-investigator projects: | | |
| I have been a second | o The roles and the work to be performed by each PI and Key | | |
| | Participant; | | |
| | o Business agreements between the applicant and each PI and Key | | |
| | Participant; | | |
| | o How the various efforts will be integrated and managed; | | |
| | Process for making decisions on scientific/technical direction; | | |
| | o Publication arrangements; | | |
| | o Intellectual Property Issues; and | | |
| | | | |
| | o Communication plans | | |

Appendices

- Applicants should attach letters of commitment from all Subrecipient/third party cost share providers as an appendix. Letters of commitment do not count towards the page limit.
- Applicants may attach one-page letters of support from other relevant entities (i.e. end users of the proposed solution) as an appendix.
 Letters of support do not count towards the page limit. Multi-page letters of support are not allowed and will not be reviewed.
- Applicants may attach one or two-page resumes for key participating team members as an appendix. Resumes do not count towards the page limit. Resumes over 2 pages are not allowed and will not be reviewed.
- Applicants may include references as a footnote on each page of the
 application or as an appendix that will not count towards the page
 limit. References and outside links to additional content may be
 considered by reviewers, however, applications should not require
 references or outside content to be understood and reviewed.

iii. SF-424: Application for Federal Assistance

Complete all required fields in accordance with the instructions on the form. The list of certifications and assurances in Field 21 can be found at http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms, under Certifications and Assurances. Note: The dates and dollar amounts on the SF-424 are for the complete project period and not just the first project year, first phase or other subset of the project period. Save the SF-424 in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_App424".

iv. Summary Slide

Applicants are required to provide a single PowerPoint slide summarizing the proposed project. The slide must be submitted in Microsoft PowerPoint format. This slide is used during the evaluation process. Save the Summary Slide in a single file using the following convention for the title "ControlNumber LeadOrganization_Slide".

The Summary Slide template can be downloaded from EERE Exchange and requires the following information:

- A technology Summary;
- · A description of the technology's impact;
- Proposed project goals;
- · Any key graphics (illustrations, charts and/or tables);
- The project's key idea/takeaway;

- Project title, Prime Recipient, Principal Investigator, and Key Participant Information; and
- Requested EERE funds and proposed applicant cost share.

v. Budget for DOE/NNSA FFRDC (if applicable)

If a DOE/NNSA FFRDC contractor is to perform a portion of the work, the applicant must provide a DOE Field Work Proposal (FWP) in accordance with the requirements in DOE Order 412.1, Work Authorization System. DOE Order 412.1 and DOE O 412.1 (Field Work Proposal form) area available at the following link, under "DOE Budget Forms": https://www.directives.doe.gov/directives-documents/400-series/0412.1-BOrder-a-admchg1/@@images/file. Save the FWP in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_FWP".

vi. Authorization for non-DOE/NNSA or DOE/NNSA FFRDCs (if applicable)

The Federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The use of a FFRDC must be consistent with the contractor's authority under its award. Save the Authorization in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_FFRDCAuth".

vii.SF-LLL: Disclosure of Lobbying Activities

Prime Recipients and Subrecipients may not use any Federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.

Prime Recipients and Subrecipients are required to complete and submit SF-LLL, "Disclosure of Lobbying Activities" (https://www.grants.gov/web/grants/forms/sf-424-individual-family.html) to ensure that non-Federal funds have not been paid and will not be paid to any person for influencing or attempting to influence any of the following in connection with your application:

- An officer or employee of any Federal agency;
- A Member of Congress;
- · An officer or employee of Congress; or
- An employee of a Member of Congress.

Save the SF-LLL in a single PDF file using the following convention for the title "ControlNumber LeadOrganization_SF-LLL".

viii. Waiver Requests: Foreign Entities and Performance of Work in the United States (if applicable)

1. Foreign Entity Participation:

As set forth in Section III.A.3, all Prime Recipients receiving funding under this FOA must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. To request a waiver of this requirement, the applicant must submit an explicit waiver request in the Full Application. Appendix C lists the necessary information that must be included in a request to waive this requirement.

2. Performance of Work in the United States

As set forth in Section IV.J.iii, all work under EERE funding agreements must be performed in the United States. This requirement does not apply to the purchase of supplies and equipment, so a waiver is not required for foreign purchases of these items. However, the Prime Recipient should make every effort to purchase supplies and equipment within the United States. Appendix C lists the necessary information that must be included in a request to waive the Performance of Work in the United States requirement.

F. Content and Form of Replies to Reviewer Comments

EERE will provide applicants with reviewer comments following evaluation of all eligible Full Applications. Applicants will have a brief opportunity to review the comments and to prepare a short Reply to Reviewer Comments responding to comments however they desire or supplementing their Full Application. The Reply to Reviewer Comments is an optional submission; applicants are not required to submit a Reply to Reviewer Comments. EERE will post the Reviewer Comments in Exchange. The expected submission deadline is on the cover page of the FOA; however, it is the applicant's responsibility to monitor Exchange in the event that the expected date changes. The expected submission deadline is on the cover page of the FOA; however, it is the applicant's responsibility to monitor email in the event that the expected date changes. The deadline will not be extended for applicants who are unable to timely submit their reply due to failure to check email or relying on the expected date alone. Applicants should anticipate having approximately three (3) business days to submit Replies to Reviewer Comments.

EERE will not review or consider ineligible Replies to Reviewer Comments (see Section III of the FOA). EERE will review and consider each eligible Full Application, even If no Reply is submitted or if the Reply is found to be ineligible.

Replies to Reviewer Comments must conform to the following content and form requirements, including maximum page lengths, described below. If a Reply to Reviewer Comments is more than three pages in length, EERE will review only the first three (3) pages and disregard any additional pages.

| SECTION | PAGE LIMIT | DESCRIPTION |
|----------|-------------|--|
| Text | 2 pages max | Applicants may respond to one or more reviewer comments or supplement their Full Application. |
| Optional | 1 page max | Applicants may use this page however they wish; text, graphs, charts, or other data to respond to reviewer comments or supplement their Full Application are acceptable. |

G. Possible Additional Documentation Requirements

In an effort to simplify and ease the application process, EERE will not require applicants to submit (at the time of the full application) all of the forms and documents that will eventually be required to process and approve a final project. However, each of the below documents are mandatory and must be supplied when requested and before the award can be made. If applicants foresee issues with completing the required documents they should not apply to this funding opportunity.

Additional Documents required prior to approval of new award:

i. Statement of Project Objectives

Selectees are required to complete a full and complete Statement of Project Objectives (SOPO). Negotiations will leverage the application SOPO Summary as a starting point to complete the final project SOPO.

ii. Budget Justification Workbook (EERE 335)

Selectees will be required to complete the Budget Justification Workbook. This form is available on EERE Exchange at https://eere-Exchange.energy.gov/. Prime Recipients must complete each tab of the Budget Justification Workbook for the project as a whole, including all work to be performed by the Prime Recipient and its Subrecipients and

Contractors, and provide all requested documentation (e.g., a Federally-approved rate agreement, vendor quotes). Selectees should include costs associated with required annual audits and incurred cost proposals in their proposed budget documents. The "Instructions and Summary" included with the Budget Justification Workbook will auto-populate as the applicant enters information into the Workbook. Selectees must carefully read the "Instructions and Summary" tab provided within the Budget Justification Workbook.

iii. Subaward Budget Justification (EERE 335) (if applicable)

Selectees must provide a separate budget justification, EERE 335 (i.e., budget justification for each budget year and a cumulative budget) for each subawardee that is expected to perform work estimated to be more than \$250,000 or 25 percent of the total work effort (whichever is less).

iv. Summary/Abstract for Public Release

Selectees are required to submit a one-page summary/abstract of their project. The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (e.g., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as DOE may make it available to the public after selections are made.

v. Budget for FFRDC (if applicable)

If a FFRDC contractor is to perform a portion of the work, the Selectees must provide a DOE Field Work Proposal (FWP) in accordance with the requirements in DOE Order 412.1, Work Authorization System. DOE Order 412.1 and DOE O 412.1 (Field Work Proposal form) area available at the following link, under "DOE Budget Forms":

https://www.directives.doe.gov/directives-documents/400-series/0412.1-BOrder-a-admchg1/@@images/file.

vi. U.S. Manufacturing Commitments

Meritorious applicants (except applications for Topic 4.1 and 4.2 which focus on workforce development) will be required to submit a US Manufacturing Plan prior to selection for negotiation. The U.S.

Manufacturing Plan is not a requirement or expectation that the project will include U.S. manufacturing activities during the award. The U.S. Manufacturing Plan represents the applicant's measurable commitment that, if and when, any technology developed under the award results in commercial products that those products will be manufactured in the U.S. or would otherwise support U.S. manufacturing and the economic benefit to US taxpayers.

The U.S. Manufacturing Plans may be used by the Selection Official as a program policy factor when selecting awards for negotiations. See Section V.C.I for more information on program policy factors.

A U.S. Manufacturing Plan should contain the following or similar preamble: "If selected for funding, the applicant agrees to the following commitments as a condition of that funding:" and, after the preamble, the plan should include one or more specific and measureable commitments. For example, an applicant may commit particular types of products to be manufactured in the U.S. In addition to or instead of making a commitment tied to a particular product, the applicant may make other types of commitments still beneficial to U.S. manufacturing, the U.S. economy and/or the U.S. taxpayer. An applicant may commit to a particular investment in a new or existing U.S. manufacturing facility, keep certain activities based in the U.S. (i.e., final assembly) or support a certain number of jobs in the U.S. related to the technology and manufacturing. For an applicant which is likely to license the technology to others, especially universities for which licensing may be the exclusive means of commercialization the technology, the U.S. manufacturing plan may indicate the applicant's plan and commitment to use a licensing strategy that would likely support U.S. manufacturing.

When an applicant that is a domestic small business, domestic educational institution, or nonprofit organization is selected for an award, the U.S. Manufacturing Plan submitted by the applicant becomes part of the terms and conditions of the award. The applicant/awardee may request a waiver or modification of the U.S. Manufacturing Plan from DOE upon a showing that the original U.S. Manufacturing Plan is no longer economically feasible.

When an applicant that is a domestic large business is selected for an award, a class patent waiver applies as set forth in Section VIII. L. Under this class patent waiver, domestic large businesses may elect title to their subject inventions similar to the right provided to the domestic small

businesses, educational institutions, and nonprofits by law. In order to avail itself of the class patent waiver, a domestic large business must agree that any products embodying or produced through the use of an invention conceived or first actually reduced to practice under the award will be substantially manufactured in the United States, unless DOE agrees that the commitments proposed in the U.S. Manufacturing Plan are sufficient.

For other entity types that are selected for award, please see Section VIII.L regarding U.S. manufacturing commitments.

vii. Data Management Plan

Except for Topics 4.1 and 4.2, selectees will be required to submit a Data Management Plan during the award negotiations phase. The Data Management Plan is a document that outlines the proposed plan for data sharing or preservation. Submission of this plan is required, and failure to submit the plan may result in the termination of award negotiations. As a courtesy, guidance for preparing a Data Management Plan is provided in Appendix D of the FOA.

H. Post-Award Information Requests

If selected for negotiations award, EERE reserves the right to request additional or clarifying information for any reason deemed necessary, including but not limited to:

- Indirect cost information
- · Other budget information
- Commitment Letters from Third Parties Contributing to Cost Share, if applicable
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Environmental Questionnaire

Dun & Bradstreet Universal Numbering System Number and System for Award Management

DOE cannot make a Federal award to an applicant until the applicant has complied with all applicable DUNS and SAM requirements and, if an applicant has not fully complied with the requirements by the time DOE is ready to make a Federal award,

the DOE may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant. Each applicant (unless the applicant is an individual or Federal awarding agency that is excepted from those requirements under 2 CFR §25.110(b) or (c), or has an exception approved by the Federal awarding agency under 2 CFR §25.110(d)) is required to: (1) Be registered in the System for Award Management (SAM) at https://www.sam.gov before submitting its application; (2) provide a valid Dun & Bradstreet Universal Numbering System (DUNS) number in its application; and (3) continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

Submission Dates and Times

Concept Papers, Full Applications, and Replies to Reviewer Comments must be submitted in EERE Exchange no later than 5:00 p.m. Eastern on the dates provided on the cover page of this FOA.

K. Intergovernmental Review

This FOA is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

L. Funding Restrictions

EERE funding is typically provided via invoice reimbursement. Recipients of government funding must definitively show that all funds were expended and, if the funds are allowable costs, those funds will be reimbursed after taking cost share into account. Funds will not be provided up front, therefore, a level of cash on hand is required to meet cash flow requirements. This should be taken into account when applying for funding.

i. Allowable Costs

All expenditures must be allowable, allocable, and reasonable in accordance with the applicable Federal cost principles.

Refer to the following applicable Federal cost principles for more information:

- FAR Part 31 for For-Profit entities; and
- 2 CFR Part 200 Subpart E Cost Principles for all other non-federal entities.

ii. Pre-Award Costs

Selectees must request prior written approval to charge pre-award costs. Pre-award costs are those incurred prior to the effective date of the Federal award directly pursuant to the negotiation and in anticipation of the Federal award where such costs are necessary for efficient and timely performance of the scope of work. Such costs are allowable only to the extent that they would have been allowable if incurred after the date of the Federal award and only with the written approval of the Federal awarding agency, through the Contracting Officer assigned to the award.

Pre-award costs cannot be incurred prior to the Selection Official signing the Selection Statement and Analysis. Pre-award costs can only be incurred if such costs would be reimbursable under the agreement if incurred after award.

Pre-Award expenditures are made at the Selectee's risk; EERE is not obligated to reimburse costs: (1) in the absence of appropriations; (2) if an award is not made; or (3) if an award is made for a lesser amount than the Selectee anticipated.

iii. Pre-Award Costs Related to National Environmental Policy Act (NEPA) Requirements

EERE's decision whether and how to distribute Federal funds under this FOA is subject to NEPA. Applicants should carefully consider and should seek legal counsel or other expert advice before taking any action related to the proposed project that would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to EERE completing the NEPA review process.

EERE does not guarantee or assume any obligation to reimburse costs where the Prime Recipient incurred the costs prior to receiving written authorization from the Contracting Officer. If the applicant elects to undertake activities that may have an adverse effect on the environment or limit the choice of reasonable alternatives prior to receiving such written authorization from the Contracting Officer, the applicant is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share. Likewise, if a project is selected for negotiation of award, and the Prime Recipient elects to undertake activities that are not authorized for Federal funding by the Contracting Officer in advance of EERE completing a NEPA review, the Prime Recipient is doing so at risk of

not receiving Federal Funding and such costs may not be recognized as allowable cost share. Nothing contained in the pre-award cost reimbursement regulations or any pre-award costs approval letter from the Contracting Officer override these NEPA requirements to obtain the written authorization from the Contracting Officer prior to taking any action that may have an adverse effect on the environment or limit the choice of reasonable alternatives.

iv. Performance of Work in the United States

1. Requirement

All work performed under EERE Awards must be performed in the United States. This requirement does not apply to the purchase of supplies and equipment; however, the Prime Recipient should make every effort to purchase supplies and equipment within the United States. The Prime Recipient must flow down this requirement to its Subrecipients.

2. Failure to Comply

If the Prime Recipient fails to comply with the Performance of Work in the United States requirement, EERE may deny reimbursement for the work conducted outside the United States and such costs may not be recognized as allowable recipient cost share. The Prime Recipient is responsible should any work under this Award be performed outside the United States, absent a waiver, regardless of if the work is performed by the Prime Recipient, Subrecipients, contractors or other project partners.

3. Waiver

There may be limited circumstances where it is in the interest of the project to perform a portion of the work outside the United States. To seek a waiver of the Performance of Work in the United States requirement, the applicant must submit a written waiver request to EERE. Appendix C lists the necessary information that must be included in a request to waive the Performance of Work in the United States requirement.

The applicant must demonstrate to the satisfaction of EERE that a waiver would further the purposes of the FOA and is in the economic interests of the United States. EERE may require additional information before considering a waiver request. Save the waiver request(s) in a

single PDF file titled "ControlNumber_PerformanceofWork_Waiver". The applicant does not have the right to appeal EERE's decision concerning a waiver request.

v. Construction

Recipients are required to obtain written authorization from the Contracting Officer before incurring any major construction costs.

vi. Foreign Travel

If international travel is proposed for the proposed project, please note that the proposed travel must comply with the International Air Transportation Fair Competitive Practices Act of 1974 (49 USC 40118), commonly referred to as the "Fly America Act," and implementing regulations at 41 CFR 301-10.131 through 301-10.143. The law and regulations require air transportation of people or property to, from, between, or within a country other than the United States, the cost of which is supported under this award, be performed by or under a cost-sharing arrangement with a U.S. flag carrier, if service is available. Foreign travel costs are allowable only with the written prior approval of the Contracting Officer assigned to the award.

vii. Equipment and Supplies

To the greatest extent practicable, all equipment and products purchased with funds made available under this FOA should be American-made. This requirement does not apply to used or leased equipment.

EERE will take an ownership interest in any property purchased with award funds or offered as cost share. Property disposition will be required at the end of a project if the current fair market value of property exceeds \$5,000. Any property purchased with award funds must either be sold, or the recipient may retain the property. In either of these situations, the recipient must buy out the government's interest based on the total cost share percentage of the award. Property may also be transferred to an eligible third party (other awardee) subject to EERE approval. The rules for property disposition are set forth in 2 CFR 200.310 – 200.316 as amended by 2 CFR 910.360.

viii. Lobbying

Recipients and Subrecipients may not use any Federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.

Recipients and Subrecipients are required to complete and submit SF-LLL, "Disclosure of Lobbying Activities" (https://www.grants.gov/web/grants/forms/post-award-reporting-forms.html#sortby=1)to ensure that non-Federal funds have not been paid and will not be paid to any person for influencing or attempting to influence any of the following in connection with your application:

- An officer or employee of any Federal agency;
- A Member of Congress;
- · An officer or employee of Congress; or
- An employee of a Member of Congress.

ix. Risk Assessment

Prior to making a Federal award, the DOE is required by 31 U.S.C. 3321 and 41 U.S.C. 2313 to review information available through any OMB-designated repositories of government-wide eligibility qualification or financial integrity information, such as SAM Exclusions and "Do Not Pay."

In addition, DOE evaluates the risk(s) posed by applicants before they receive Federal awards. This evaluation may consider: results of the evaluation of the applicant's eligibility; the quality of the application; financial stability; quality of management systems and ability to meet the management standards prescribed in this part; history of performance; reports and findings from audits; and the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-Federal entities.

In addition to this review, DOE must comply with the guidelines on government-wide suspension and debarment in 2 CFR 180, and must require non-Federal entities to comply with these provisions. These provisions restrict Federal awards, subawards and contracts with certain parties that are debarred, suspended or otherwise excluded from or ineligible for participation in Federal programs or activities.

x. Invoice Review and Approval

DOE employs a risk-based approach to determine the level of supporting documentation required for approving invoice payments. Recipients may be required to provide some or all of the following items with their requests for reimbursement:

- Summary of costs by cost categories
- · Timesheets or personnel hours report
- Invoices/receipts for all travel, equipment, supplies, contractual, and other costs
- UCC filing proof for equipment acquired with project funds by forprofit recipients and subrecipients
- Explanation of cost share for invoicing period
- Analogous information for some subrecipients
- Other items as required by DOE

V. Application Review Information

A. Technical Review Criteria

i. Concept Papers

Concept papers will be evaluated using Criterion 1 (Innovation and Impact) and Criterion 3 (Capability and Resources of the Applicant/Project Team)technical review criteria that are used for Full Application evaluation. Each criterion will be weighted at 50%. Please see the following section for a list of those criteria.

All sub-criteria are of equal weight.

ii. Full Applications

Full applications and SIPS applications (Topics #...) will be evaluated based on the below criteria:

Criterion 1: Innovation and Impact (Weight: 34%) – How innovative and impactful is the project, assuming the stated outcomes can be achieved as written?

 Innovative –Extent to which the proposed project or solution is well beyond the state of the art.

- Impactful Extent to which the proposed project or solution, if successful, impacts the core goals outlined in the FOA in Topics and Areas of Interest (FOA Section #...). Extent to which the claimed Impacts are feasible and justified.
- Differentiated Extent of differentiation with respect to existing commercial products, solutions, programs, or technologies.
- Scalable Likelihood the proposed solution, if successful, could be scaled to have a broader impact or be maintained at a sufficiently large scale after project completion.

Criterion 2: Quality and Feasibility of the Project Plan (Weight: 33%) — Are the stated goals of the project SMART (Specific, Measurable, Aggressive (but achievable), Relevant, and Timely), are they likely to be accomplished within the scope of this project, and does the proposal show a clear path for growth and improvement over time?

- Measurable Extent to which the applicant shows a clear understanding of the importance of SMART verifiable milestones and proposes milestones that demonstrate clear progress, are aggressive but achievable, and are quantitative.
- Risks mitigated Extent to which the applicant understands and discusses the project risks and challenges the proposed work will face, and the soundness of the strategies and methods that will be used to mitigate risks.
- Validated Level of validation (letters of support/interest, partners, customer trials, data from prior work, report references, technical baselines established, etc.).
- Reasonable assumptions Reasonableness of the assumptions used to form the execution strategy, (e.g., market size, customer participation, costs, throughput at full scale, speed of proposed scaleup or adoption, and mode of funding).
- Reasonable budget The reasonableness of the overall funding requested to achieve the proposed project and objectives.

Criterion 3: Capability and Resources of the Applicant/Project Team (Weight: 33%) – Is the team well qualified and positioned to successfully complete this project?

 Capable – The training, capabilities, and experience of the assembled team to address all aspects of the proposed work with a high probability of success. Extent to which this team (including proposed

Subrecipients) will be able to achieve the final results on time and to specification.

- Participation The level of participation by project participants as
 evidenced by letter(s) of commitment and how well they are
 integrated into the Team Qualifications and Resources section of the
 Technical Volume.
- Commitment Extent to which the final team required to complete
 this project is fully assembled and committed to the project (e.g., Are
 there any key members that are "to be hired at a later date")
- Past Performance Extent to which the assembled team has shown success in the past. DOE encourages new entrants and new ideas, but past successes and/or failures will be noted.
- Access Extent to which the team has access to facilities, equipment, people, expertise, data, knowledge, and any other resources required to complete the proposed project.

iii. Criteria for Replies to Reviewer Comments

EERE has not established separate criteria to evaluate Replies to Reviewer Comments. Instead, Replies to Reviewer Comments are attached to the original applications and evaluated as an extension of the Full Application.

B. Standards for Application Evaluation

Applications that are determined to be eligible will be evaluated in accordance with this FOA, by the standards set forth in EERE's Notice of Objective Merit Review Procedure (76 Fed. Reg. 17846, March 31, 2011) and the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance," which is available at: https://energy.gov/management/downloads/merit-review-guide-financial-assistance-and-unsolicited-proposals-current.

C. Other Selection Factors

i. Program Policy Factors

In addition to the above criteria, the Selection Official may consider the following program policy factors in determining which Full Applications to select for award negotiations:

 The degree to which the proposed project exhibits technological or programmatic diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA.

- The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives.
- The level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers.
- Based on the commitments made in the U.S. Manufacturing Plan, the
 degree to which the proposed project is likely to lead to increased
 employment and manufacturing in the United States or provide other
 economic benefit to U.S. taxpayers.
- The degree to which the proposed project will accelerate transformational technological, financial, or workforce advances in areas that industry by itself is not likely to undertake because of technical or financial uncertainty.
- The degree to which the proposed project collectively represents diverse types and sizes of applicant organizations.
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications).
- The degree to which the proposed project avoids duplication/overlap with other publicly or privately funded work.
- The degree to which the proposed project supports complementary efforts or projects, which, when taken together, will best achieve the research goals and objectives.
- The degree to which the proposed project enables new and expanding market segments.
- Whether the project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer.

D. Evaluation and Selection Process

Overview

The evaluation process consists of multiple phases; each includes an initial eligibility review and a thorough technical review. Rigorous technical reviews of eligible submissions are conducted by reviewers that are experts in the subject matter of the FOA. Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, in determining which applications to select.

ii. Pre-Selection Interviews

As part of the evaluation and selection process, EERE may invite one or more applicants to participate in Pre-Selection Interviews. Pre-Selection Interviews are distinct from and more formal than pre-selection clarifications (See Section V.D.3 of the FOA). The invited applicant(s) will meet with EERE representatives to provide clarification on the contents of the Full Applications and to provide EERE an opportunity to ask questions regarding the proposed project. The information provided by applicants to EERE through Pre-Selection Interviews contributes to EERE's selection decisions.

EERE will arrange to meet with the invited applicants in person at EERE's offices or a mutually agreed upon location. EERE may also arrange site visits at certain applicants' facilities. In the alternative, EERE may invite certain applicants to participate in a one-on-one conference with EERE via webinar, videoconference, or conference call.

EERE will not reimburse applicants for travel and other expenses relating to the Pre-Selection Interviews, nor will these costs be eligible for reimbursement as pre-award costs.

EERE may obtain additional information through Pre-Selection Interviews that will be used to make a final selection determination. EERE may select applications for funding and make awards without Pre-Selection Interviews. Participation in Pre-Selection Interviews with EERE does not signify that applicants have been selected for award negotiations.

iii. Pre-Selection Clarification

EERE may determine that pre-selection clarifications are necessary from one or more applicants. Pre-selection clarifications are distinct from and less formal than pre-selection interviews. These pre-selection clarifications will solely be for the purposes of clarifying the application, and will be limited to information already provided in the application documentation. The pre-selection clarifications may occur before, during or after the merit review evaluation process. Information provided by an applicant that is not necessary to address the pre-selection clarification question will not be reviewed or considered. Typically, a pre-selection clarification will be carried out through either written responses to EERE's written clarification questions or video or conference calls with EERE representatives.

The information provided by applicants to EERE through pre-selection clarifications is incorporated in their applications and contributes to the

merit review evaluation and EERE's selection decisions. If EERE contacts an applicant for pre-selection clarification purposes, it does not signify that the applicant has been selected for negotiation of award or that the applicant is among the top ranked applications.

EERE will not reimburse applicants for expenses relating to the preselection clarifications, nor will these costs be eligible for reimbursement as pre-award costs.

iv. Recipient Integrity and Performance Matters

DOE, prior to making a Federal award with a total amount of Federal share greater than the simplified acquisition threshold, is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS) (see 41 U.S.C. 2313).

The applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a Federal awarding agency previously entered and is currently in the designated integrity and performance system accessible through SAM.

DOE will consider any written comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under Federal awards when completing the review of risk posed by applicants as described in 2 C.F.R. § 200.205.

v. Selection

The Selection Official may consider the technical merit, the Federal Consensus Board's recommendations, program policy factors, and the amount of funds available in arriving at selections for this FOA.

E. Anticipated Notice of Selection and Award Dates

EERE anticipates notifying applicants selected for negotiation of award and making awards by the dates listed on the FOA cover page.

VI. Award Administration Information

A. Award Notices

i. Ineligible Submissions

Ineligible Concept Papers and Full Applications will not be further reviewed or considered for award. The Contracting Officer will send a notification letter by email to the technical and administrative points of contact designated by the applicant in EERE Exchange. The notification letter will state the basis upon which the Concept Paper or the Full Application is ineligible and not considered for further review.

ii. Concept Paper Notifications

EERE will notify applicants of its determination to encourage or discourage the submission of a Full Application. EERE will post these notifications to EERE Exchange.

Applicants may submit a Full Application even if they receive a notification discouraging them from doing so. By discouraging the submission of a Full Application, EERE intends to convey its lack of programmatic interest in the proposed project. Such assessments do not necessarily reflect judgments on the merits of the proposed project. The purpose of the Concept Paper phase is to save applicants the considerable time and expense of preparing a Full Application that is unlikely to be selected for award negotiations.

A notification letter encouraging the submission of a Full Application does not authorize the applicant to commence performance of the project. Please refer to Section IV.J.2 of the FOA for guidance on pre-award costs.

III. Full Application Notifications

EERE will notify applicants of its determination via a notification letter by email to the technical and administrative points of contact designated by the applicant in EERE Exchange. The notification letter will inform the applicant whether or not its Full Application was selected for award negotiations. Alternatively, EERE may notify one or more applicants that a final selection determination on particular Full Applications will be made at a later date, subject to the availability of funds or other factors.

iv. Successful Applicants

Receipt of a notification letter selecting a Full Application for award negotiations does not authorize the applicant to commence performance of the project. If an application is selected for award negotiations, it is not a commitment by EERE to issue an award. Applicants do not receive an award until award negotiations are complete and the Contracting Officer

executes the funding agreement, accessible by the Prime Recipient in FedConnect.

The award negotiation process will take approximately 60 days. Applicants must designate a primary and a backup point-of-contact in EERE Exchange with whom EERE will communicate to conduct award negotiations. The applicant must be responsive during award negotiations (i.e., provide requested documentation) and meet the negotiation deadlines. If the applicant fails to do so or if award negotiations are otherwise unsuccessful, EERE will cancel the award negotiations and rescind the Selection. EERE reserves the right to terminate award negotiations at any time for any reason.

Please refer to Section IV.F. of the FOA for guidance on documents that will be requested during the negotiation phase.

Please refer to Section IV.J.2 of the FOA for guidance on pre-award costs.

v. Alternate Selection Determinations

In some instances, an applicant may receive a notification that its application was not selected for award and EERE designated the application to be an alternate. As an alternate, EERE may consider the Full Application for Federal funding in the future. A notification letter stating the Full Application is designated as an alternate does not authorize the applicant to commence performance of the project. EERE may ultimately determine to select or not select the Full Application for award negotiations.

vi. Unsuccessful Applicants

EERE shall promptly notify in writing each applicant whose application has not been selected for award or whose application cannot be funded because of the unavailability of appropriated funds.

B. Administrative and National Policy Requirements

i. Registration Requirements

There are several one-time actions required before submitting an application in response to this FOA, and it is vital that applicants address these items as soon as possible. Some may take several weeks, and failure to complete them could interfere with an applicant's ability to apply to this FOA, or to meet the negotiation deadlines and receive an award if the application is selected. These requirements are as follows:

1. EERE Exchange

Register and create an account on EERE Exchange at https://eere-exchange.energy.gov.

This account will then allow the user to register for any open EERE FOAs that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission. Applicants should also designate backup points of contact so they may be easily contacted if deemed necessary. This step is required to apply to this FOA. The EERE Exchange enforces this requirement. The Business and Technical Point of Contact fields on the Contact Information page of the submission record are mandatory data fields.

The EERE Exchange registration does not have a delay; however, the remaining registration requirements below could take several weeks to process and are necessary for a potential applicant to receive an award under this FOA.

2. DUNS Number

A DUNS Number is a unique nine-digit identifier for businesses. It is used to establish a Dun & Bradstreet business credit file, which is often referenced by lenders and potential business partners to help predict the reliability and/or financial stability of the company in question. You must have a DUNS Number if you want to apply for government funds.

To register for a DUNS Number, you'll need the following information:

- Legal name
- Headquarters name and address for your business
- Doing Business As (DBA) or other name by which your business is commonly recognized
- Physical address, city, state and ZIP Code
- Mailing address (if separate from headquarters and/or physical address)
- · Telephone number
- Contact name and title
- Number of employees at your physical location
- Whether you are a Home-Based Business

A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at http://fedgov.dnb.com/webform).

3. System for Award Management

Register with the System for Award Management (SAM) at https://www.sam.gov. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.

You <u>must</u> have an active registration in SAM to do business with the Federal Government. To register in SAM, at a minimum, you will need the following information:

- Your DUNS Number, Legal Business Name, and Physical Address from your Dun & Bradstreet (D&B) record. If you don't already have one, you can request a DUNS Number for FREE from D&B.
- Your Taxpayer Identification Number (TIN) and Taxpayer Name associated with your TIN. Review your tax documents from the IRS (such as a 1099 or W-2 form) to find your Taxpayer Name.
- Your bank's routing number, your bank account number, and your bank account type, i.e. checking or savings, to set up Electronic Funds Transfer (EFT).

4. FedConnect

You must be registered in FedConnect in order to receive award documentation. You must register in FedConnect at https://www.fedconnect.net. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Gol Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf

5. Grants.gov

Register in Grants.gov (http://www.grants.gov) to receive automatic updates when Amendments to this FOA are posted. However, please note that Letters of Intent, Concept Papers, and Full Applications will not be accepted through Grants.gov.

6. Electronic Authorization of Applications and Award Documents

Submission of an application and supplemental information under this FOA through electronic systems used by the Department of Energy, including EERE Exchange and FedConnect.net, constitutes the authorized representative's approval and electronic signature.

ii. Award Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR Part 200 as amended by 2 CFR Part 910. The information is provided so successful applicants are aware of the various items that will be required of them. Detailed information and clarification on these items can be provided during negotiations if it is needed.

iii. Foreign National Access to DOE Sites

All applicants that ultimately enter into an award resulting from this FOA will be subject to the following requirement concerning foreign national involvement. Upon DOE's request, Prime Recipients must provide information to facilitate DOE's responsibilities associated with foreign national access to DOE sites, information, technologies, and equipment. A foreign national is defined as any person who was born outside the jurisdiction of the United States, is a citizen of a foreign government, and has not been naturalized under U.S. law. If the Prime Recipient or Subrecipients, contractors or vendors under the award, anticipate utilizing a foreign national person in the performance of an award, the Prime Recipient is responsible for providing to the Contracting Officer specific information of the foreign national(s) to satisfy compliance with all of the requirements for access approval.

iv. Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR Part 170. Prime Recipients must register with the new FFATA Subaward Reporting System database and report the required data on their first tier Subrecipients. Prime Recipients must report the executive compensation for their own executives as part of their registration profile in SAM.

v. National Policy Requirements

The National Policy Assurances that are incorporated as a term and condition of award are located at: http://www.nsf.gov/awards/managing/rtc.jsp.

vi. Environmental Review in Accordance with National Environmental Policy Act (NEPA)

EERE's decision whether and how to distribute federal funds under this FOA is subject to the National Environmental Policy Act (42 USC 4321, et seq.). NEPA requires Federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website, at http://nepa.energy.gov/.

While NEPA compliance is a Federal agency responsibility and the ultimate decisions remain with the Federal agency, all recipients selected for an award will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their proposed project. If DOE determines certain records must be prepared to complete the NEPA review process (e.g., biological evaluations or environmental assessments), the costs to prepare the necessary records may be included as part of the project costs.

vil. Applicant Representations and Certifications

1. Lobbying Restrictions

By accepting funds under this award, the Prime Recipient agrees that none of the funds obligated on the award shall be expended, directly or indirectly, to influence Congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. §1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

- 2. Corporate Felony Conviction and Federal Tax Liability Representations In submitting an application in response to this FOA, the applicant represents that:
 - a. It is not a corporation that has been convicted of a felony criminal violation under any Federal law within the preceding 24 months, and
 - b. It is not a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not

being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

For purposes of these representations the following definitions apply:

A Corporation includes any entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States [but not foreign corporations]. It includes both for-profit and non-profit organizations.

- 3. Nondisclosure and Confidentiality Agreements Representations in submitting an application in response to this FOA the applicant represents that:
 - a. It does not and will not require its employees or contractors to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting its employees or contactors from lawfully reporting waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.
 - b. It does not and will not use any Federal funds to implement or enforce any nondisclosure and/or confidentiality policy, form, or agreement it uses unless it contains the following provisions:
 - (1) "These provisions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights, or liabilities created by existing statute or Executive order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive orders and statutory provisions are incorporated into this agreement and are controlling."
 - (2) The limitation above shall not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

(3) Notwithstanding the provision listed in paragraph (a), a nondisclosure or confidentiality policy form or agreement that is to be executed by a person connected with the conduct of an intelligence or intelligence-related activity, other than an employee or officer of the United States Government, may contain provisions appropriate to the particular activity for which such document is to be used. Such form or agreement shall, at a minimum, require that the person will not disclose any classified information received in the course of such activity unless specifically authorized to do so by the United States Government. Such nondisclosure or confidentiality forms shall also make It clear that they do not bar disclosures to Congress, or to an authorized official of an executive agency or the Department of Justice, that are essential to reporting a substantial violation of law.

viii. Statement of Federal Stewardship

EERE will exercise normal Federal stewardship in overseeing the project activities performed under EERE Awards. Stewardship Activities include, but are not limited to, conducting site visits; reviewing performance and financial reports, providing assistance and/or temporary intervention in usual circumstances to correct deficiencies that develop during the project; assuring compliance with terms and conditions; and reviewing technical performance after project completion to ensure that the project objectives have been accomplished.

ix. Statement of Substantial Involvement

EERE has substantial involvement in work performed under Awards made as a result of this FOA. EERE does not limit its involvement to the administrative requirements of the Award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects or core activities of the project as a whole. Substantial involvement includes, but is not limited to, the following:

- EERE shares responsibility with the recipient for the management, control, direction, and performance of the Project.
- EERE may intervene in the conduct or performance of work under this Award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.

- EERE may redirect or discontinue funding the Project based on the outcome of EERE's evaluation of the Project at that the Go/No Go decision point(s).
- 4. EERE participates in major project decision-making processes.

x. Subject Invention Utilization Reporting

In order to ensure that Prime Recipients and Subrecipients holding title to subject inventions are taking the appropriate steps to commercialize subject inventions, EERE may require that each Prime Recipient holding title to a subject invention submit annual reports for 10 years from the date the subject invention was disclosed to EERE on the utilization of the subject invention and efforts made by Prime Recipient or their licensees or assignees to stimulate such utilization. The reports must include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Prime Recipient, and such other data and information as EERE may specify.

xi. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www1.eere.energy.gov/financing/resources.html.

xil.Reporting

Reporting requirements are Identified on the Federal Assistance Reporting Checklist, attached to the award agreement. The checklist can be accessed at https://energy.gov/eere/funding/eere-funding-application-and-management-forms.

xiii. Go/No-Go Review

Each project selected under this FOA will be subject to a periodic project evaluation referred to as a Go/No-Go Review. Federal funding beyond the Go/No Go decision point (continuation funding), is contingent on (1) the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority; (2) meeting the objectives, milestones, deliverables, and decision point criteria of recipient's approved project and obtaining approval from EERE to continue work on the project; and (3) the submittal of required reports in accordance with the Statement of Project Objectives.

As a result of the Go/No Go Review, DOE may, at its discretion, authorize the following actions: (1) continue to fund the project, contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority; (2) recommend redirection of work under the project; (3) place a hold on federal funding for the project, pending further supporting data or funding; or (4) discontinue funding the project because of insufficient progress, change in strategic direction, or lack of funding.

The Go/No-Go decision is distinct from a non-compliance determination. In the event a recipient falls to comply with the requirements of an award, EERE may take appropriate action, including but not limited to, redirecting, suspending or terminating the award.

xiv. Conference Spending

The recipient shall not expend any funds on a conference not directly and programmatically related to the purpose for which the cooperative agreement was awarded that would defray the cost to the United States Government of a conference held by any Executive branch department, agency, board, commission, or office for which the cost to the United States Government would otherwise exceed \$20,000, thereby circumventing the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General (or senior ethics official for any entity without an Inspector General), of the date, location, and number of employees attending such conference.

xv. UCC Financing Statements

Per 2 CFR 910.360 (Real Property and Equipment) when a piece of equipment is purchased by a for-profit recipient or subrecipient with Federal Funds, and when the Federal share of the financial assistance agreement is more than \$1,000,000, the recipient or subrecipient must:

Properly record, and consent to the Department's ability to properly record if the recipient fails to do so, UCC financing statement(s) for all equipment in excess of \$5,000 purchased with project funds. These financing statement(s) must be approved in writing by the contracting officer prior to the recording, and they shall provide notice that the Recipient's title to all equipment (not real property) purchased with Federal funds under the financial assistance agreement is conditional pursuant to the terms of this section, and that the Government retains an undivided reversionary

interest in the equipment. The UCC financing statement(s) must be filed before the Contracting Officer may reimburse the recipient for the Federal share of the equipment unless otherwise provided for in the relevant financial assistance agreement. The recipient shall further make any amendments to the financing statements or additional recordings, including appropriate continuation statements, as necessary or as the Contracting Officer may direct.

VII. Questions/Agency Contacts

Upon the issuance of a FOA, EERE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the FOA except through the established question and answer process as described below. Specifically, questions regarding the content of this FOA must be submitted to: SETO.FOA@ee.doe.gov. If potential or current applicants attempt to contact EERE personnel, they will forward your question to the appropriate inbox and reply with a statement that they are not permitted to discuss the FOA. Questions must be submitted not later than 3 business days prior to the application due date and time.

All questions and answers related to this FOA will be posted on EERE Exchange at: https://eere-exchange.energy.gov. Please note that you must first select this specific FOA Number in order to view the questions and answers specific to this FOA. EERE will attempt to respond to a question within 3 business days, unless a similar question and answer has already been posted on the website.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: <u>EERE-ExchangeSupport@hq.doe.gov</u>.

VIII. Other Information

A. FOA Modifications

Amendments to this FOA will be posted on the EERE Exchange website and the Grants.gov system. However, you will only receive an email when an amendment or a FOA is posted on these sites if you register for email notifications for this FOA in Grants.gov. EERE recommends that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any amendments or other FOAs.

B. Informational Webinar

EERE will conduct at least two informational webinars during the FOA process. One will be held after the initial FOA release but before the due date for Concept Papers

and the other will be held after concept paper notifications and before the due date for full applications.

Attendance is not mandatory and will not positively or negatively impact the overall review of any applicant submissions. As the webinar will be open to all applicants who wish to participate, applicants should refrain from asking questions or communicating information that would reveal confidential and/or proprietary information specific to their project. Specific dates for the webinar can be found on the cover page of the FOA. Please check EERE Exchange for information regarding webinar registration.

C. Government Right to Reject or Negotiate

EERE reserves the right, without qualification, to reject any or all applications received in response to this FOA and to select any application, in whole or in part, as a basis for negotiation and/or award.

D. Commitment of Public Funds

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by anyone other than the Contracting Officer, either express or implied, is invalid.

E. Treatment of Application Information

In general, EERE will only use data and other information contained in applications for evaluation purposes, unless such information is generally available to the public or is already the property of the Government.

Applicants should not include trade secrets or commercial or financial information that is privileged or confidential in their application unless such information is necessary to convey an understanding of the proposed project or to comply with a requirement in the FOA.

The use of protective markings such as "Do Not Publicly Release — Trade Secret" or "Do Not Publicly Release — Confidential Business Information" is encouraged. However, applicants should be aware that the use of protective markings is not dispositive as to whether information will be publicly released pursuant to the Freedom of Information Act, 5 U.S.C. §552, et. seq., as amended by the OPEN Government Act of 2007, Pub. L. No. 110-175. (See Section I of this document, "Notice of Potential Disclosure Under the Freedom of Information Act (FOIA)" for additional information regarding the public release of information under the Freedom of Information Act.

Applicants are encouraged to employ protective markings in the following manner:

The cover sheet of the application must be marked as follows and identify the specific pages containing trade secrets or commercial or financial information that is privileged or confidential:

Notice of Restriction on Disclosure and Use of Data:

Pages [list applicable pages] of this document may contain trade secrets or commercial or financial information that is privileged or confidential, and is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the Government. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. [End of Notice]

The header and footer of every page that contains trade secrets or commercial or financial information that is privileged must be marked as follows: "May contain trade secrets or commercial or financial information that is privileged or confidential and exempt from public disclosure."

In addition, each line or paragraph containing trade secrets or commercial or financial information that is privileged or confidential must be enclosed in brackets.

F. Evaluation and Administration by Non-Federal Personnel

In conducting the merit review evaluation, the Go/No-Go Review and Peer Review, the Government may seek the advice of qualified non Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

G. Notice Regarding Eligible/Ineligible Activities

Eligible activities under this FOA include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

H. Notice of Right to Conduct a Review of Financial Capability

EERE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

Notice of Potential Disclosure Under Freedom of Information Act (FOIA)

Under the Freedom of Information Act, (FOIA), 5 U.S.C. §552, et. seq., as amended by the OPEN Government Act of 2007, Pub. L. No. 110-175, any information received from the Applicant is considered to be an agency record, and as such, subject to public release under FOIA. The purpose of the FOIA is to afford the public the right to request and receive agency records unless those agency records are protected from disclosure under one or more of the nine FOIA exemptions. Decisions to disclose or withhold information received from the Applicant are based upon the applicability of one or more of the nine FOIA exemptions, not on the existence or nonexistence of protective markings or designations. Only the agency's designated FOIA Officer may determine if information received from the Applicant may be withheld pursuant to one of the nine FOIA exemptions. All FOIA requests received by DOE are processed in accordance with 10 C.F.R. Part 1004.

J. Requirement for Full and Complete Disclosure

Applicants are required to make a full and complete disclosure of all information requested in the FOA. Any failure to make a full, complete, and accurate disclosure of the requested information may result in:

- The termination of award negotiations;
- The modification, suspension, and/or termination of a funding agreement;
- The initiation of debarment proceedings, debarment, and/or a declaration of ineligibility for receipt of Federal contracts, subcontracts, and financial assistance and benefits; and
- · Civil and/or criminal penalties.

K. Retention of Submissions

EERE expects to retain copies of all Letters of Intent, Concept Papers, Full Applications, Replies to Reviewer Comments, and other submissions. No submissions will be returned. By applying to EERE for funding, applicants consent to EERE's retention of their submissions.

L. Title to Subject Inventions

Ownership of subject inventions is governed pursuant to the authorities listed below.

- Domestic Small Businesses, Educational Institutions, and Nonprofits: Under the Bayh-Dole Act (35 U.S.C. § 200 et seq.), domestic small businesses, educational institutions, and nonprofits may elect to retain title to their subject inventions.
- All other parties: The Federal Non-Nuclear Energy Act of 1974, 42. U.S.C.
 5908, provides that the Government obtains title to new inventions unless a waiver is granted (see below).
- Class Patent Waiver:

DOE has issued a class waiver that applies to this FOA. Under this class waiver, domestic large businesses may elect title to their subject inventions similar to the right provided to the domestic small businesses, educational institutions, and nonprofits by law. In order to avail itself of the class waiver, a domestic large business must agree that any products embodying or produced through the use of a subject invention first created or reduced to practice under this program will be substantially manufactured in the United States, unless DOE agrees that the commitments proposed in the U.S. Manufacturing Plan are sufficient.

- Advance and Identified Waivers: Applicants may request a patent waiver
 that will cover subject inventions that may be invented under the award, in
 advance of or within 30 days after the effective date of the award. Even if an
 advance waiver is not requested or the request is denied, the recipient will
 have a continuing right under the award to request a waiver for identified
 inventions, i.e., individual subject inventions that are disclosed to EERE
 within the timeframes set forth in the award's intellectual property terms
 and conditions. Any patent waiver that may be granted is subject to certain
 terms and conditions in 10 CFR 784.
- Determination of Exceptional Circumstances (DEC): Each meritorious applicant [excluding Topic 4 which is related to workforce development] will be required to submit a U.S. Manufacturing Plan prior to preselection interviews. If selected, the U.S. Manufacturing Plan shall be incorporated into the award terms and conditions for domestic small businesses and nonprofit organizations. DOE has determined that exceptional circumstances exist that warrants the modification of the standard patent rights clause for small businesses and non-profit awardees under Bayh-Dole to the extent necessary to implement and enforce the U.S. Manufacturing Plan. For example, the commitments and enforcement of a U.S. Manufacturing Plan may be tied to subject inventions. Any Bayh-Dole entity (domestic small business or nonprofit organization) affected by this DEC has the right to appeal it.

M. Government Rights in Subject Inventions

Where Prime Recipients and Subrecipients retain title to subject inventions, the U.S. Government retains certain rights.

i. Government Use License

The U.S. Government retains a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world. This license extends to contractors doing work on behalf of the Government.

ii. March-in Rights

The U.S. Government retains march-in rights with respect to all subject inventions. Through "march-in rights," the Government may require a Prime Recipient or Subrecipient who has elected to retain title to a subject invention (or their assignees or exclusive licensees), to grant a license for use of the invention to a third party. In addition, the Government may grant licenses for use of the subject invention when a Prime Recipient, Subrecipient, or their assignees and exclusive licensees refuse to do so.

DOE may exercise its march-in rights only if it determines that such action is necessary under any of the four following conditions:

- The owner or licensee has not taken or is not expected to take effective steps to achieve practical application of the invention within a reasonable time;
- The owner or licensee has not taken action to alleviate health or safety needs in a reasonably satisfied manner;
- The owner has not met public use requirements specified by Federal statutes in a reasonably satisfied manner; or
- The U.S. Manufacturing requirement has not been met.

Any determination that march-in rights are warranted must follow a fact-finding process in which the recipient has certain rights to present evidence and witnesses, confront witnesses and appear with counsel and appeal any adverse decision. To date, DOE has never exercised its march-in rights to any subject inventions.

N. Rights in Technical Data

Data rights differ based on whether data is first produced under an award or instead was developed at private expense outside the award.

"Limited Rights Data": The U.S. Government will not normally require delivery of confidential or trade secret-type technical data developed solely at private expense prior to issuance of an award, except as necessary to monitor technical progress and evaluate the potential of proposed technologies to reach specific technical and cost metrics.

Topics 1, 2 and 3 will be subject to the below language:

Government rights in Technical Data Produced Under Awards: The U.S. Government normally retains unlimited rights in technical data produced under Government financial assistance awards, including the right to distribute to the public. However, pursuant to special statutory authority, certain categories of data generated under EERE awards may be protected from public disclosure for up to five years after the data is generated ("Protected Data"). For awards permitting Protected Data, the protected data must be marked as set forth in the awards intellectual property terms and conditions and a listing of unlimited rights data (i.e., non-protected data) must be inserted into the data clause in the award. In addition, invention disclosures may be protected from public disclosure for a reasonable time in order to allow for filing a patent application.

Topic 4 will be subject to the below language:

Government Rights in Technical Data Produced Under Awards: The U.S. Government retains unlimited rights in technical data produced under Government financial assistance awards, including the right to distribute to the public. One exception to the foregoing is that invention disclosures may be protected from public disclosure for a reasonable time in order to allow for filing a patent application.

O. Copyright

The Prime Recipient and Subrecipients of projects funded under Topic 4 may assert copyright in educational or learning materials developed under an award without DOE's permission only if the Prime Recipient and Subrecipients license the materials to the public under a Creative Commons Attribution License (CCBY).

For all other copyrightable works developed under awards, the Prime Recipient and Subrecipients may assert copyright in copyrightable works, such as software, first produced under the award without EERE approval. When copyright is asserted, the Government retains a paid-up nonexclusive, irrevocable worldwide license to reproduce, prepare derivative works, distribute copies to the public, and to perform publicly and display publicly the copyrighted work. This license extends to contractors and others doing work on behalf of the Government.

Questions about this FOA? Email SETO,FOA@ee.doe.gov.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@hg.doe.gov</u>

Include FOA name and number in subject line.

P. Personally Identifiable Information (PII)

All information provided by the Applicant must to the greatest extent possible exclude Personally Identifiable information (PII). The term "personally identifiable information" refers to information which can be used to distinguish or trace an individual's identity, such as their name, social security number, biometric records, etc. alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual, such as date and place of birth, mother's maiden name, etc. (See OMB Memordum M-07-16 dated May 22, 2007, found at: https://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2007/m07-16.pdf

https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2007/m

By way of example, Applicants must screen resumes to ensure that they do not contain PII such as personal addresses, phone/cell numbers, personal emails and/or SSNs. In short, if the PII is not essential to the application, it should not be in the application.

Q. Annual Independent Audits

If a for-profit entity is a Prime Recipient and has expended \$750,000 or more of DOE awards during the entity's fiscal year, an annual Compliance Audit performed by an independent auditor is required. For additional information, please refer to 2 C.F.R. § 910.501 and Subpart F.

If an educational institution, non-profit organization, or state/local government is a Prime Recipient or Subrecipient and has expended \$750,000 or more of Federal awards during the non-Federal entity's fiscal year, then a Single or Program-Specific Audit is required. For additional information, please refer to 2 C.F.R. § 200.501 and Subpart F.

Applicants and sub-recipients (if applicable) should propose sufficient costs in the project budget to cover the costs associated with the audit. EERE will share in the cost of the audit at its applicable cost share ratio.



Appendix A – Cost Share Information

Cost Sharing or Cost Matching

The terms "cost sharing" and "cost matching" are often used synonymously. Even the DOE Financial Assistance Regulations, 2 CFR 200.306, use both of the terms in the titles specific to regulations applicable to cost sharing. EERE almost always uses the term "cost sharing," as it conveys the concept that non-federal share is calculated as a percentage of the Total Project Cost. An exception is the State Energy Program Regulation, 10 CFR 420.12, State Matching Contribution. Here "cost matching" for the non-federal share is calculated as a percentage of the Federal funds only, rather than the Total Project Cost.

How Cost Sharing Is Calculated

As stated above, cost sharing is calculated as a percentage of the Total Project Cost. FFRDC costs must be included in Total Project Costs. Following is an example of how to calculate cost sharing amounts for a project with \$1,000,000 in federal funds with a minimum 20% non-federal cost sharing requirement:

- Formula: Federal share (\$) divided by Federal share (%) = Total Project Cost Example: \$1,000,000 divided by 80% = \$1,250,000
- Formula: Total Project Cost (\$) minus Federal share (\$) = Non-federal share (\$)
 Example: \$1,250,000 minus \$1,000,000 = \$250,000
- Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)
 Example: \$250,000 divided by \$1,250,000 = 20%

What Qualifies For Cost Sharing

While it is not possible to explain what specifically qualifies for cost sharing in one or even a couple of sentences, in general, if a cost is allowable under the cost principles applicable to the organization incurring the cost and is eligible for reimbursement under an EERE grant or cooperative agreement, then it is allowable as cost share. Conversely, if the cost is not allowable under the cost principles and not eligible for reimbursement, then it is not allowable as cost share. In addition, costs may not be counted as cost share if they are paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing.



The rules associated with what is allowable as cost share are specific to the type of organization that is receiving funds under the grant or cooperative agreement, though are generally the same for all types of entities. The specific rules applicable to:

- FAR Part 31 for For-Profit entities, (48 CFR Part 31); and
- 2 CFR Part 200 Subpart E Cost Principles for all other non-federal entities.

In addition to the regulations referenced above, other factors may also come into play such as timing of donations and length of the project period. For example, the value of ten years of donated maintenance on a project that has a project period of five years would not be fully allowable as cost share. Only the value for the five years of donated maintenance that corresponds to the project period is allowable and may be counted as cost share.

Additionally, EERE generally does not allow pre-award costs for either cost share or reimbursement when these costs precede the signing of the appropriation bill that funds the award. In the case of a competitive award, EERE generally does not allow pre-award costs prior to the signing of the Selection Statement by the EERE Selection Official.

General Cost Sharing Rules on a DOE award

- Cash Cost Share encompasses all contributions to the project made by the recipient or subrecipeint(s), for costs incurred and paid for during the project. This includes when an organization pays for personnel, supplies, equipment, etc. for their own company with organizational resources. If the item or service is reimbursed for, it is cash cost share. All cost share items must be necessary to the performance of the project.
- 2. In Kind Cost Share encompasses all contributions to the project made by the recipient or subrecipient(s) that do not involve a payment or reimbursement and represent donated items or services. In Kind cost share items include volunteer personnel hours, donated existing equipment, donated existing supplies, etc. The cash value and calculations thereof for all In Kind cost share items must be justified and explained in the Cost Share section of the project Budget Justification (EERE 335). All cost share items must be necessary to the performance of the project. If questions exist, consult your DOE contact before filling out the In Kind cost share section of the Budget Justification (EERE 335).
- 3. Funds from other Federal sources MAY NOT be counted as cost share. This prohibition includes FFRDC sub-recipients. Non-Federal sources include any source not originally derived from Federal funds. Cost sharing commitment letters from subrecipients must be provided with the original application.

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Include FOA name and number in subject line.

- 4. Fee or profit, including foregone fee or profit, are not allowable as project costs (including cost share) under any resulting award. The project may only incur those costs that are allowable and allocable to the project (including cost share) as determined in accordance with the applicable cost principles prescribed in FAR Part 31 for For-Profit entities and 2 CFR Part 200 Subpart E Cost Principles for all other non-federal entities.
- Vendors/Contractors may not provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

DOE Financial Assistance Rules 2 CFR Part 200 as amended by 2 CFR Part 910

As stated above, the rules associated with what is allowable cost share are generally the same for all types of organizations. Following are the rules found to be common, but again, the specifics are contained in the regulations and cost principles specific to the type of entity:

- (A) Acceptable contributions. All contributions, including cash contributions and third party in-kind contributions, must be accepted as part of the Prime Recipient's cost sharing if such contributions meet all of the following criteria:
 - (1) They are verifiable from the recipient's records.
 - (2) They are not included as contributions for any other federally-assisted project or program.
 - (3) They are necessary and reasonable for the proper and efficient accomplishment of project or program objectives.
 - (4) They are allowable under the cost principles applicable to the type of entity incurring the cost as follows:
 - a. For-profit organizations. Allowability of costs incurred by for-profit organizations and those nonprofit organizations listed in Attachment C to OMB Circular A–122 is determined in accordance with the for-profit cost principles in 48 CFR Part 31 in the Federal Acquisition Regulation, except that patent prosecution costs are not allowable unless specifically authorized in the award document. (v) Commercial Organizations. FAR Subpart 31.2—Contracts with Commercial Organizations
 - b. Other types of organizations. For all other non-federal entities, allowability of costs is determined in accordance with 2 CFR Part 200 Subpart E.

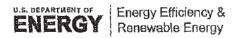
Questions about this FOA? Email SETO.FOA@ee.doe.gov.

Problems with EERE Exchange? Email EERE- <u>EERE-ExchangeSupport@hq.doe.gov</u>

Include FOA name and number in subject line.



- (5) They are not paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing or matching.
- (6) They are provided for in the approved budget.
- (B) Valuing and documenting contributions
 - (1) Valuing recipient's property or services of recipient's employees. Values are established in accordance with the applicable cost principles, which mean that amounts chargeable to the project are determined on the basis of costs incurred. For real property or equipment used on the project, the cost principles authorize depreciation or use charges. The full value of the item may be applied when the item will be consumed in the performance of the award or fully depreciated by the end of the award. In cases where the full value of a donated capital asset is to be applied as cost sharing or matching, that full value must be the lesser or the following:
 - a. The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation; or
 - b. The current fair market value. If there is sufficient justification, the Contracting Officer may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project. The Contracting Officer may accept the use of any reasonable basis for determining the fair market value of the property.
 - (2) Valuing services of others' employees. If an employer other than the recipient furnishes the services of an employee, those services are valued at the employee's regular rate of pay, provided these services are for the same skill level for which the employee is normally paid.
 - (3) Valuing volunteer services. Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services must be consistent with those paid for similar work in the recipient's organization. In those markets in which the required skills are not found in the recipient organization, rates must be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.



- (4) Valuing property donated by third parties.
 - a. Donated supplies may include such items as office supplies or laboratory supplies. Value assessed to donated supplies included in the cost sharing or matching share must be reasonable and must not exceed the fair market value of the property at the time of the donation.
 - b. Normally only depreciation or use charges for equipment and buildings may be applied. However, the fair rental charges for land and the full value of equipment or other capital assets may be allowed, when they will be consumed in the performance of the award or fully depreciated by the end of the award, provided that the Contracting Officer has approved the charges. When use charges are applied, values must be determined in accordance with the usual accounting policies of the recipient, with the following qualifications:
 - The value of donated space must not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.
 - ii. The value of loaned equipment must not exceed its fair rental value.
- (5) Documentation. The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties:
 - a. Volunteer services must be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.
 - b. The basis for determining the valuation for personal services and property must be documented.

Appendix B – Sample Cost Share Calculation for Blended Cost Share Percentage

The following example shows the math for calculating required cost share for a project with \$2,000,000 in Federal funds with four tasks requiring different Non-federal cost share percentages:

| Task | Proposed Federal Share | Federal Share % | Recipient Share % |
|------------------------|---------------------------|-----------------|-------------------|
| Task 1 (R&D) | \$1,000,000 | 80% | 20% |
| Task 2 (R&D) | \$500,000 | 80% | 20% |
| Task 3 (Demonstration) | \$400,000 | 50% | 50% |
| Task 4 (Outreach) | \$100,000 | 100% | 0% |

Federal share (\$) divided by Federal share (%) = Task Cost

Each task must be calculated individually as follows:

Task 1

\$1,000,000 divided by 80% = \$1,250,000 (Task 1 Cost)
Task 1 Cost minus federal share = Non-federal share
\$1,250,000 - \$1,000,000 = \$250,000 (Non-federal share)

Task 2

\$500,000 divided 80% = \$625,000 (Task 2 Cost)
Task 2 Cost minus federal share = Non-federal share
\$625,000 - \$500,000 = \$125,000 (Non-federal share)

Task 3

\$400,000 / 50% = \$800,000 (Task 3 Cost)
Task 3 Cost minus federal share = Non-federal share
\$800,000 - \$400,000 = \$400,000 (Non-federal share)

Task 4

Federal share = \$100,000 Non-federal cost share is not mandated for outreach = \$0 (Non-federal share)



The calculation may then be completed as follows:

| Tasks 🕒 💳 | \$ Federal + | % Federal | \$ Non-Federal | % Non-Federal | Total Project |
|--|--------------|-----------|----------------|---------------|---------------|
| The part of the pa | Share | Share | Share: | Share ======= | Cost |
| Task 1 | \$1,000,000 | 80% | \$250,000 | 20% | \$1,250,000 |
| Task 2 | \$500,000 | 80% | \$125,000 | 20% | \$625,000 |
| Task 3 | \$400,000 | 50% | \$400,000 | 50% | \$800,000 |
| Task 4 | \$100,000 | 100% | \$0 | 0% | \$100,000 |
| Totals | \$2,000,000 | | \$775,000 | | \$2,775,000 |

Blended Cost Share %

Non-federal share (\$775,000) divided by Total Project Cost (\$2,775,000) = 27.9% (Non-federal) Federal share (\$2,000,000) divided by Total Project Cost (\$2,775,000) = 72.1% (Federal)



Appendix C – Waiver Requests: Foreign Entity Participation as the Prime Recipient and Performance of Work in the United States

1. Waiver for Foreign Entity Participation as the Prime Recipient

As set forth in Section III.A.3, all Prime Recipients receiving funding under this FOA must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. To request a waiver of this requirement, an applicant must submit an explicit waiver request in the Full Application.

Overall, the applicant must demonstrate to the satisfaction of EERE that it would further the purposes of this FOA and is otherwise in the economic interests of the United States to have a foreign entity serve as the Prime Recipient. A request to waive the Foreign Entity Participation as the Prime Recipient requirement must include the following:

- Entity name;
- The rationale for proposing a foreign entity to serve as the Prime Recipient;
- Country of incorporation;
- A description of the project's anticipated contributions to the US economy;
 - How the project will benefit U.S. research, development and manufacturing, including contributions to employment in the U.S. and growth in new markets and jobs in the U.S.;
 - How the project will promote domestic American manufacturing of products and/or services;
- A description of how the foreign entity's participation as the Prime Recipient is essential to the project;
- A description of the likelihood of Intellectual Property (IP) being created from the work and the treatment of any such IP;
- Countries where the work will be performed (Note: if any work is proposed to be conducted outside the U.S., the applicant must also complete a separate request for waiver of the Performance of Work in the United States requirement).

EERE may require additional information before considering the waiver request.

The applicant does not have the right to appeal EERE's decision concerning a waiver request.

2. Waiver for Performance of Work in the United States

As set forth in Section IV.J.3, all work under EERE funding agreements must be performed in the United States. This requirement does not apply to the purchase of supplies and equipment, so a

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waiver is not required for foreign purchases of these items. However, the Prime Recipient should make every effort to purchase supplies and equipment within the United States. There may be limited circumstances where it is in the interest of the project to perform a portion of the work outside the United States. To seek a waiver of the Performance of Work in the United States requirement, the applicant must submit an explicit waiver request in the Full Application. A separate waiver request must be submitted for each entity proposing performance of work outside of the United States.

Overall, a waiver request must demonstrate to the satisfaction of EERE that it would further the purposes of this FOA and is otherwise in the economic interests of the United States to perform work outside of the United States. A request to waive the *Performance of Work in the United States* requirement must include the following:

- The rationale for performing the work outside the U.S. ("foreign work");
- A description of the work proposed to be performed outside the U.S.;
- An explanation as to how the foreign work is essential to the project;
- A description of the anticipated benefits to be realized by the proposed foreign work and the anticipated contributions to the US economy;
 - o The associated benefits to be realized and the contribution to the project from the foreign work;
 - How the foreign work will benefit U.S. research, development and manufacturing, including contributions to employment in the U.S. and growth in new markets and jobs in the U.S.;
 - How the foreign work will promote domestic American manufacturing of products and/or services;
- A description of the likelihood of Intellectual Property (IP) being created from the foreign work and the treatment of any such IP;
- The total estimated cost (DOE and Recipient cost share) of the proposed foreign work;
- The countries in which the foreign work is proposed to be performed; and
- The name of the entity that would perform the foreign work.

EERE may require additional information before considering the waiver request.

The applicant does not have the right to appeal EERE's decision concerning a waiver request.



Appendix D - Data Management Plan

A data management plan ("DMP") will be required as part of award negotiations. It explains how data generated in the course of the work performed under an EERE award will be shared and preserved or, when justified, explains why data sharing or preservation is not possible or scientifically appropriate.

DMP Requirements

In order for a DMP to be considered acceptable, the DMP must address the following:

At a minimum, the DMP must describe how data sharing and preservation will enable validation of the results from the proposed work, or how results could be validated if data are not shared or preserved.

The DMP must provide a plan for making all research data displayed in publications resulting from the proposed work digitally accessible at the time of publication. This includes data that are displayed in charts, figures, images, etc. In addition, the underlying digital research data used to generate the displayed data should be made as accessible as possible in accordance with the principles stated above. This requirement could be met by including the data as supplementary information to the published article, or through other means. The published article should indicate how these data can be accessed.

The DMP should consult and reference available information about data management resources to be used in the course of the proposed work. In particular, a DMP that explicitly or implicitly commits data management resources at a facility beyond what is conventionally made available to approved users should be accompanied by written approval from that facility. In determining the resources available for data management at DOE User Facilities, researchers should consult the published description of data management resources and practices at that facility and reference it in the DMP. Information about other DOE facilities can be found in the additional guidance from the sponsoring program.

The DMP must protect confidentiality, personal privacy, Personally Identifiable Information, and U.S. national, homeland, and economic security; recognize proprietary interests, business confidential information, and intellectual property rights; avoid significant negative impact on innovation, and U.S. competitiveness; and otherwise be consistent with all laws (i.e., export control laws), and DOE regulations, orders, and policies.



Data Determination for a DMP

The Principal Investigator should determine which data should be the subject of the DMP and, in the DMP, propose which data should be shared and/or preserved in accordance with the DMP Requirements noted above.

For data that will be generated through the course of the proposed work, the Principal Investigator should indicate what types of data should be protected from immediate public disclosure by DOE (referred to as "protected data") and what types of data that DOE should be able to release immediately. Similarly, for data developed outside of the proposed work at private expense that will be used in the course of the proposed work, the Principal Investigator should indicate whether that type of data will be subject to public release or kept confidential (referred to as "limited rights data"). Any use of limited rights data or labeling of data as "protected data" must be consistent with the DMP Requirements noted above.

Suggested Elements for a DMP

The following list of elements for a DMP provides suggestions regarding the data management planning process and the structure of the DMP:

Data Types and Sources: A brief, high-level description of the data to be generated or used through the course of the proposed work and which of these are considered digital research data necessary to validate the research findings or results.

Content and Format: A statement of plans for data and metadata content and format including, where applicable, a description of documentation plans, annotation of relevant software, and the rationale for the selection of appropriate standards. Existing, accepted community standards should be used where possible. Where community standards are missing or inadequate, the DMP could propose alternate strategies for facilitating sharing, and should advise the sponsoring program of any need to develop or generalize standards.

Sharing and Preservation: A description of the plans for data sharing and preservation. This should include, when appropriate: the anticipated means for sharing and the rationale for any restrictions on who may access the data and under what conditions; a timeline for sharing and preservation that addresses both the minimum length of time the data will be available and any anticipated delay to data access after research findings are published; any special requirements for data sharing, for example, proprietary software needed to access or interpret data, applicable policies, provisions, and licenses for re-use and re-distribution, and for the production of derivatives, including guidance for how data and data products should be cited; any resources and capabilities (equipment, connections,

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systems, software, expertise, etc.) requested in the research proposal that are needed to meet the stated goals for sharing and preservation (this could reference the relevant section of the associated research proposal and budget request); and whether/where the data will be preserved after direct project funding ends and any plans for the transfer of responsibilities for sharing and preservation.

Protection: A statement of plans, where appropriate and necessary, to protect confidentiality, personal privacy, Personally Identifiable Information, and U.S. national, homeland, and economic security; recognize proprietary interests, business confidential information, and intellectual property rights; and avoid significant negative impact on innovation, and U.S. competitiveness.

Rationale: A discussion of the rationale or justification for the proposed data management plan including, for example, the potential impact of the data within the immediate field and in other fields, and any broader societal impact.

Additional Guidance

In determining which data should be shared and preserved, researchers must consider the data needed to validate research findings as described in the Requirements, and are encouraged to consider the potential benefits of their data to their own fields of research, fields other than their own, and society at large.

DMPs should reflect relevant standards and community best practices and make use of community accepted repositories whenever practicable.

Costs associated with the scope of work and resources articulated in a DMP may be included in the proposed research budget as permitted by the applicable cost principles.

To improve the discoverability of and attribution for datasets created and used in the course of research, EERE encourages the citation of publicly available datasets within the reference section of publications, and the identification of datasets with persistent identifiers such as Digital Object Identifiers (DOIs). In most cases, EERE can provide DOIs free of charge for data resulting from DOE-funded research through its Office of Scientific and Technical Information (OSTI) DataID Service.

EERE's Digital Data Management principles can be found at: <u>EERE Digital Data Management |</u>
Department of Energy



Definitions

Data Preservation: Data preservation means providing for the usability of data beyond the lifetime of the research activity that generated them.

Data Sharing: Data sharing means making data available to people other than those who have generated them. Examples of data sharing range from bilateral communications with colleagues, to providing free, unrestricted access to anyone through, for example, a webbased platform.

Digital Research Data: The term digital data encompasses a wide variety of information stored in digital form including: experimental, observational, and simulation data; codes, software and algorithms; text; numeric information; images; video; audio; and associated metadata. It also encompasses information in a variety of different forms including raw, processed, and analyzed data, published and archived data.

Research Data: The recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues. This 'recorded' material excludes physical objects (e.g., laboratory samples). Research data also do not include:

- (A) Trade secrets, commercial information, materials necessary to be held confidential by a researcher until they are published, or similar information which is protected under law; and
- (B) Personnel and medical information and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, such as information that could be used to identify a particular person in a research study."

Validate: In the context of DMPs, validate means to support, corroborate, verify, or otherwise determine the legitimacy of the research findings. Validation of research findings could be accomplished by reproducing the original experiment or analyses; comparing and contrasting the results against those of a new experiment or analyses; or by some other means.

Rodriguez, Susan (CONTR)

From:

Nilsen, Garrett

Sent:

Tuesday, October 02, 2018 5:56 AM

To:

Jones-Albertus, Becca; Fricker, Kyle; Kane, Victor

Subject:

RE: Final FY18 FOA for posting

I want to say I saw a digital copy, but I honestly cannot be 100% certain at this point.

From: Jones-Albertus, Becca

Sent: Tuesday, October 02, 2018 8:35 AM

To: Fricker, Kyle <Kyle.Fricker@EE.DOE.Gov>; Nilsen, Garrett <Garrett.Nilsen@ee.doe.gov>; Kane, Victor

<Victor.Kane@EE.Doe.Gov>

Subject: RE: Final FY18 FOA for posting

Thanks to you both for checking! That explains why Garrett and I couldn't find an email - maybe the edits were on paper?

Becca

From: Fricker, Kyle < Kyle, Fricker@EE.DOE.Gov>

Date: Monday, Oct 01, 2018, 7:44 PM

To: Jones-Albertus, Becca (Becca Jones-Albertus@ee.doe.gov), Nilsen, Garrett (Garrett, Nilsen@ee.doe.gov), Kane, Victor

<Victor, Kane@EE.Doe.Gov>

Subject: FW: Final FY18 FOA for posting

I didn't find anything very helpful, but it's possible one of the folks on this chain had it. Victor's doc merge shows the changes I remember though.

-Kyle

From: Mikrut, Jeremey

Sent: Tuesday, April 10, 2018 4:21 PM

To: Bobo, Diana < Diana, Bobo@ee.doe.gov >; Pfrangle, Clay < Clay.Pfrangle@EE.Doe.Gov >

Cc: Kane, Victor < Victor.Kane@EE.Doe.Gov>; Wilson, Sara < Sara.Wilson@ee.doe.gov>; Nilsen, Garrett

< Garrett.Nilsen@ee.doe.gov>; Murley, Susanna (CONTR) < Susanna.Murley@EE.DOE.Gov>; Fricker, Kyle

<Kyle.Fricker@EE.DOE.Gov>

Subject: Final FY18 FOA for posting

Importance: High

Hi Diana and Clay,

Attached is the Final FOA that can be uploaded in STRIPES and posted on Exchange on Monday once we get the greenlight clearance. Let me know if you have any questions.

Thank you,

Jeremey

Jeremey Mikrut

Technical Project Officer Solar Energy Technologies Office Golden, Colorado Phone: 240-562-1289

Rodriguez, Susan (CONTR)

From:

Vonglis, John G.

Sent:

Tuesday, October 02, 2018 12:00 PM

To:

Everett, Jazmin

Cc:

Forcier, Bridget;Beitler, Rachael;Hendrickson, Randall;Parr, Steven M.;Johns, Christopher

Subject:

RE: FOA

Thank you, Jazmin.

Looking forward to it.

Best,

John

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

From: Everett, Jazmin < Jazmin. Everett@hq.doe.gov>

Date: Tuesday, Oct 02, 2018, 10:51 AM

To: Vonglis, John G. <John. Vonglis@hq.doe.gov>

Cc: Forcier, Bridget < Bridget Forcier@hq.doe.gov >, Beitler, Rachael < Rachael.Beitler@hq.doe.gov >, Hendrickson, Randall < Randall. Hendrickson@Hq.Doe.Gov>, Parr, Steven M. < Steven.Parr@hq.doe.gov>, Johns, Christopher

<Christopher.Johns@Hq.Doe.Gov>

Subject: RE: FOA

Hi John.

The rest of the prep session went well. Menezes plans to open the meeting tomorrow to set the tone and Cathy plans to discuss the key points that came up in the pre-brief:

- DOE Leadership asked for a review all EERE FOAs
- During the review of the solar FOA the decision was made that topic 1 needed to be updated to more clearly and concisely communicate DOE's objectives of energy security and resiliency
- The solar FOA was not at the point in the process that acting EE-1 would have been briefed on the FOA applicants, so she was not aware of any of the applicants when she made the request to update topic 1

The meeting is tomorrow at 3pm. I will send a read out to this group when I return from the meeting.

Jazmin

Jazmin Everett U.S. Department of Energy Office of the Chief Financial Officer Office of Budget, External Coordination

Phone: 202-586-2499

From: Vonglis, John G.

Sent: Tuesday, October 02, 2018 1:35 PM

To: Everett, Jazmin < Jazmin. Everett@hq.doe.gov>

Cc: Forcier, Bridget <Bridget.Forcier@hq.doe.gov>; Beitler, Rachael <Rachael.Beitler@hq.doe.gov>; Hendrickson, Randall

<Randall.Hendrickson@Hq.Doe.Gov>; Parr, Steven M. <Steven.Parr@hq.doe.gov>; Johns, Christopher

<Christopher.Johns@Hq.Doe.Gov>

Subject: FOA

How did rest of prep session go?

John G. Vonglis Chief Financial Officer U.S. Department of Energy Washington, D.C. 20585 (202) 586-4171

Key Dates

- April 16 FOA Released
 - O U.S. Secretary of Energy Rick Perry <u>issued a press release</u> announcing the Solar Energy Technologies Office (SETO) Fiscal Year 2018 funding opportunity announcement (FOA). The FOA identified four topics including one (Topic Area 1) to advance research on technologies enabling integration of solar energy onto the nation's electricity grid. The office had budgeted \$46 million anticipating about 14 projects. The FOA stated that the expected timeframe for selection notifications was September 2018.
- May 9 Concept papers Due
- June 5 Encourage/Discourage decisions released
- July 5 Full applications due
- August 8 Reply to reviewer comments due from applicants
- August 9-17 In-person merit reviews held
- August 31 Topic 1 applicants notified of FOA revision and NOI for new FOA posted on EERE
 Exchange
 - o The NOI includes the language: "EERE plans to Issue the FOA on or about September 15, 2018 via the EERE Exchange website https://eere-exchange.energy.gov/.

Potential Q&A

(b)(5)