

2025-09-30 TRACE-Ga OSS Transcript

Carla Heron 0:13

All right. I'd like to welcome everybody to today's session. We expect a healthy audience for this. We have over 200 RSVPs, so we're going to give everyone a chance to settle in as we run through housekeeping related to Technology for Recovery and Advanced Critical-material Extraction for Gallium. We refer to this as TRACE-Ga.

Before we get into the webinar itself, we're going to do a little bit of housekeeping. A few reminders for everyone here, you're coming in with your cameras and your microphones off that is by design. If you have technical issues, we ask that you let us know in the chat, but that is the only purpose for the chat itself. From your end, we'll be using this team's chat to provide links to you that are useful and germane either to the topic that we have, like if we see questions popping up in Slido that are need a link to a specific form or to a website.

Along those lines you'll see that the slide deck notes that this is an AI free zone. Per policy, we do not have AI bots in here either to serve as recording the meeting minutes for you or any other purpose. This meeting, as is noted, is recorded and the recording and the transcript will be available to you on the page in the coming days. Usually, within 48 hours, we have it posted. So, that is easily available, and it allows you to keyword search if you want to go find something specific that was discussed during this one-hour session.

A few other reminders related to that. This is the first of the webinars we are doing. doing for TRACE GA. We do have two other office hours webinars scheduled for later during this cycle, and those are also found on the opportunity page, but specifically they will be on **Tuesday, October 14th**, and **Thursday, November 6th**. Both of them are from **3:00 to 4:00 PM Eastern Time**. So just to be aware of that, this is not the only opportunity for a live session and posting questions. We do find that as the opportunity gets closer to closing the application that there are germane questions. to the application that need to be raised, and both of those sessions are excellent opportunities for you to pose the questions you may have. Saying that, the applications are due on **Thursday, November 20th at 3:00 PM Eastern Time**.

I'm going to say that again, **Thursday, November 20th, 2025 at 3:00 PM Eastern Time**. That is because we use a tool called submittable.

Sorry, I have a little bit of a fall cold. The submittable team is available on the East Coast. So, if you're experiencing technical issues and need assistance from their development or tier support, they are able to help you that day. If you have some overarching issue, whether it is a hurricane, fires, you name it, infrastructure related, please advise as soon as you know you could be impacted and we will work with DOE to have an extension for you, but do not assume that you can apply the next week without pre-coordination. So, we ask throughout this process that you coordinate for any issues you may.

You'll note on the slide, we've also added Slido. This is the medium we use for asking questions during the session. You have the QR code and the link there with the event code if you are manually typing it in. This will allow you to post your questions as well as see what everyone is asking, and to upvote questions that are pertinent to you. That means that the questions with the most thumbs up are the ones that will be asked first this afternoon. Before we get into the Q&A, you will have an extensive overview that will be presented during this webinar, and we ask that you hold your questions till near the end of the presentation so that it may already have been answered prior to you putting it in. In the meantime, we will be curating the questions, so if we see redundancies, we will try not to ask the same question multiple times.

When it does come to the Q&A section, we will be asking the questions aloud so that they are captured in the video on the transcript before DOE will be providing the answers. With that, I'm hoping everyone is settled in for a good session. Again, this is the Technology for Recovery and Advanced Critical-material Extraction for Gallium other. In other words, TRACE-Ga as we call it. ENERGYWERX is coordinating this opportunity. The team is here. We're also monitoring the e-mail we have for info@energywerx.org in case anyone's reaching out there with technical issues as well. But the team is here to try to help you and we will be providing links as I said in the Teams chat if any of them are germane to what is being discussed. We ask that you only ask questions through Slido. So with that in mind, I'm going to have Burt Thomas. He is our first person on deck to start to talk a little bit about

TRACE-Ga this opportunity. We also have Devinn Lambert. She will be stepping in further through this and then we'll have a unified Q&A session. So, Burt and Devinn and Burt in particular, thank you. I'm going to pass the mic over to you and appreciate your being with us and telling us about this opportunity.

Thomas, Burt 6:32

OK, I appreciate that I didn't have to prove I wasn't an AI bot by filling out a Captcha. I'm really excited about this opportunity. This is one of the first things that we've been able to do in the new administration to make a difference for the recovery of critical materials. Gallium in particular is an exciting opportunity. I've been accused of wanting a swimming pool of Gallium, so that we can practice the backstroke. This is an effort to get us on a path to do that.

My name is Burt Thomas. I'm the Division Director for Minerals in the Office of Fossil Energy, where we have oil, gas and minerals. My division is Minerals, and there's a picture of my face in front of my favorite tree here. I'm coming to you from Albany, OR, which used to be part of the Bureau of Mines. At the time in the 80s, it was the largest mineral processing Research Center there. Our office is very interested in developing commercial prospects for mineral recovery. Byproducts like Gallium are one of those important targets for it.

We're going to go through today as fast as we can. We'll get to the nuts and bolts of the opportunity because we want to make sure we're answering as many of your questions as possible. It is true, though, that I'm probably not going to be able to answer all the questions in verbal language today, so we will respond with Q&A confirmation of many answers, especially ones for which I'm not sure we have considered how to respond. That means don't hesitate to ask any questions. We'll get you accurate answers as quickly as possible.

This funding mechanism that we're using a partnership intermediary agreement is exciting to us because it's fast. It's also new to our office. So in many ways understanding how to work with this team is helping us. I think as we do more of these objective strategic sessions, and I think there were two more after this, we'll probably get this down. In the meantime, bear with me as I do my best to muddle through. Next slide please.

We're going to give you an overview of what we do. So, I'm going to speak a little bit on behalf of the department. Now I come from the Office of Fossil Energy where we have a minerals division, but there's also activity in the department and many other offices where we're doing important work at different levels of the supply chain and different activities. Our office is in the Department of Energy's Office of Fossil Energy. I think you can go to the next slide.

We spend a lot of our time trying to understand how we diversify and expand supplies. Other parts of the Department develop alternative materials and improve processing of materials. There's a big effort to understand how we can make good use of other materials like wastes. In fact, post-consumer recycling is something that our friends in EERE are focused on. Our department not only inherited the sort of functions of the Bureau of Mines for R&D and demonstration when the Bureau closed, it also has continued to invest in the kinds of technologies we need to advance the ball and develop the successful industrial strategies. I think that we've got a history of doing this for a lot of different technology areas like geothermal, wind, and solar. Our office is fond of the aspects that really led to the successful shale gas revolution that sprung out from both the Bureau of Mines and the eventual Department of Energy R&D efforts.

I will pause on this slide long enough so that you can see there's an opportunity to join the Critical Materials Collaborative. The Energy Act of 2020 asked the department to establish this group, which is intended to help coordinate and engage stakeholders in critical minerals and materials. Follow that with your phone and you'll be able to sign up for the collaborative. That is a department wide effort to help develop a healthy ecosystem of innovators and doers in industry.

Next slide please.

We're often asked who does what in the department and the basic outlines are on this slide describing in the evolution of technology from basic science efforts all the way up to add scale deployment for industry. Our department supports it all in different ways. There are overlaps in terms of what we're doing, and every single one of those overlaps has conversations to make sure that we're actually not duplicating work. The Applied Energy offices like EERE and NE and FE support our technology areas and as we have successful technologies and then move them up the scale.

There are programs available to help find those projects where they need to be. So, the advancement from prototyping to pilot to large scale demonstrations and scale deployment, I mean our department is trying to do it all for supply chains, particularly for these critical materials.

Next slide please.

OK, now we're talking about our house. One more slide. So, we are approaching the problem of mineral recovery as one in which we need to effectively transform the economics of mining and mineral recovery. One of the reasons we are in this pickle for some of the byproduct metals is in part because the economics that justify recovering it hadn't always been there. Now the policy landscape is changing under our feet. The use of some of these materials as strategic chips in the trade board, for instance is changing some of the sensitivities and the actual price pressure on some of these materials. Our office recognizes that by investing in technology and helping the private sector take up new ways of doing things, we successfully helped industry stand up a very competitive oil and gas sector at a time when America had all but, you know, ceded the territory. We recognize that the shale revolution that provides world leadership in terms of oil production and world leadership in terms of the price of production of natural gas. It lowered the price of production of natural gas. Those were a result of technology investments that the department made that allowed industry to pick up the mantle and run with it. That's effectively what we're trying to do for minerals in our division. Next slide, please.

We recognize that there are really two different things that we need to do for the country. Our department's focused on strategic investments that can move the production sort of column forward. So, let's figure out what we can do now to develop mineral resources that we need now. This is in that category focusing on industrial byproducts where an opportunity that already exists since we're not currently recovering it. Then, we will deploy technology immediately to that to try and scale it up at the same time. There are also longer paths that we need to follow in order to change the broader arc of our dependence on foreign sources of many of these minerals and materials.

On the left, we've got a chart that indicates the way the department thinks about minerals and materials. The Department of Interior has a list of minerals. The

Department of Energy has a list of minerals. Our list is the same as DOI's list, but it also includes other materials necessary for energy or important to energy. We think of this in terms of a chart with two axes. We've got the importance to energy on the Y axis and supply risk on the X axis. You can imagine that there are strategic approaches that maybe find material but don't change the intensity of use of that material. Then you've got other options where you dramatically switch materials and now you no longer need that in the intended use. Depending on which problem we're facing, some of these have solutions that are available to us. For example, if you build it and some of them require long term technology paths. TRACE-Ga, TRACE-Gallium, is indicated here as something we think can move rather quickly. OK, next slide please.

It is difficult to talk about all the work that our minerals division is doing in a single slide, but I did everything I could to get it all on one slide. We have 4 main program areas. This includes a whole characterization program focused on understanding everything we can in order to expand the resource base by understanding the material characteristics, quantities, qualities, and recoverability of those materials across the country. We have a processing program that focuses on novel processing development, and a carbon ore program that focuses on developing technologies for using abundant carbon materials that we have. What can you do with coal other than burn it? What are the valuable components you can make other than power?

Then we've stood up a couple of different efforts just in the last year or so. One of them is Metallic. It shouldn't be called a program area. It's a National Lab collaborative that is our best effort at helping the federal investments and facilities coordinate as a way to orient themselves for the support of industry as it tries to scale up in this country. That team is still forming. The National Lab team of experts has lots of equipment. They're orienting the equipment that they already have and they're expanding as a way to help successful efforts both within our department and other USG priorities.

Then we've just recently begun to invest for the first time in 30 years in new mining technology, the types of technology that's necessary to change the economics of mining, to regain the leadership that America used to have in mining technology and mineral production. It is the overall policy goal of the U.S. Government to become

world leaders in mineral production and processing. Our mineral production and processing technology program is investing to do that. OK, next slide.

We're going to talk about the specific opportunity and I think we'll get to a point where we can start to talk details. Next slide please.

The overall goal is to start recovering Gallium. Right now, we don't recover Gallium and it's been a while since we have. So, we know that there are innovative technologies out there. We know we don't know them all, and we know that we need to combine the innovative technologies with the opportunities to actually recover them from industrial process. So the goal here is to basically develop and validate a prototype that's capable of producing at least 50 kilograms of Gallium. It says pure Gallium. I think we defined the characteristics there, 50 kilograms of Gallium and you've got 14 days to do it. That works out to roughly, you know, a ton per year.

The advantage of this effort is that we're focusing on the constellation of opportunity in the technology space and then the resource existence. This is intended to be a real-world thing that can scale up quickly. The details of the funding are that this does require 20% cost share. So, if \$5 million of our money goes toward your project, you must provide 20%. We do anticipate as many as three of these projects. We're trying to be somewhat flexible in terms of how we implement. OK, next slide.

We've designed this in a couple of phases. So, in the first phase you have the opportunity to demonstrate the process and the plan at a bench scale. It's a small amount, 100 grams of gallium. You don't need to verify the purity. You have a duration that's up to you. In this phase, you have nine months, but the trick is you got to use an actual stream, actual processing stream.

Then Phase 2 is the real effort to try and produce 50 kilograms in two weeks. The purity is indicated there on the slide. I will not comment on the timeline, but we're targeting a couple of years to get that done. Looks like there's some tips on there. I would point you to any of the excellent advice from the ENERGYWERX about how to succeed in your application. Make sure you dot all the I's and cross the T's. I think part of the information that we're asking for is going to include the kinds of relevant details that you would normally collect if you're really trying to commercialize an

activity. This includes standards, compliance reports and other reports necessary for financing. What's the next slide?

Now is where I get to hand off and point out that I mentioned I had been accused of wanting an entire swimming pool of Gallium, so I could practice the backstroke. I think in Devinn's slide background, we're seeing a couple of drops of that swimming pool of Gallium if I didn't know better. OK, Devinn, take it from here.

Lambert, Devinn 22:04

Happy to so to do so, but let's advance to the next slide please. So in just the next few minutes, I want to preview the application requirements, share our intent for what's already available on [ENERGYWERX's webpage](#).

We encourage everyone to open some of the templates that we have provided for you after this call, so that while you are thinking through your project that you are just aware of what that final submission would look like.

There are several key components to your application for TRACE-Gallium and so a quick overview is you will have a cover page submitted.

You will have [a Technical Volume](#) that is up to 10 pages Max. This is where you address some of the review criteria. You submit your data to demonstrate the novelty and technical readiness of your project, and this is where you demonstrate you have a path to recover 50 kilograms of gallium from a single 14-day campaign from the metal processing stream.

Your application will also have [a Workplan](#) that is up to 5 pages. This is where you're going to define your major tasks, your milestones, and your budget. This is one of the places where you demonstrate that you are meeting your 20% cost share for your project. Your application is going to require that you have letters of support to make sure all of the partners required for the projects success are aligned.

The final upload you're going to have will be resumes for every key person in your project. We are going to only review the 1st 2 pages of each key person's resume. Said another way, a single resume could be 10 pages long, but we are only going to look at the 1st 2 pages of each person's resume. There's no maximum for the

number of pages for that resume upload, because that will be dependent on the number of key persons in your project. We can advance to the next slide.

We're going to talk about [the Cover Page](#). There's nothing remarkable about this, but what I do want to highlight so that you're not caught off guard is that we do have a defined structure for the cover sheet, like an executive summary or other cover sheets. This is going to provide a snapshot to refresh the reviewer's memory when we begin discussing all of the applications. This template will help ensure that we quickly can observe the key points of your project. Let's advance to the next slide.

[The Workplan](#) is comprised of two components, a task table and a milestone table. So, in the task table, the applicant is going to define and describe the major tasks to be performed by the team throughout the course of the project. Include identifying milestone duration and budget for each task. Here are some tips to ease your planning. There's a task table for each phase of the project. Task table for Phase 1. Task table for Phase 2. The federal and applicant budgets are defined at the task level. The applicant is going to need to provide a 20% cost share for each phase of your project, 20% for Phase 1, 20% for Phase 2.

Now in your task table, the milestones are identified, but you're identifying them by calling out the milestone short name and the months of duration. You're going to define the milestones in the milestone table, which I show on the next slide.

For the milestone table, you're going to define the milestones in the task table. These milestones are reported monthly. They need to demonstrate a technical achievement rather than simply completing a task, and these milestones should be SMART, which means they're Specific, Measurable, Achievable, Relevant, and Timely. We request that one milestone per quarter, meaning one every three months, is identified as a major project milestone.

How do you know if a milestone is SMART? A milestone is going to be SMART if it's clear and unambiguous about what success looks like with that Specific, Measurable outcome that's Realistically Achievable and in a set Time frame. It's likely that you're iteratively developing the task table and the milestone table. Let's advance to the next slide.

We're now on to the [Technical Volume Template](#), which is the largest section of your application. [The Technical Volume Template](#) breaks the application into five sections with four key areas, the Technical Volume Summary, the Project Approach and Workplan section, the Technology Description, Innovation and Readiness section. The Technology Integration, Market Opportunity and Commercialization Potential section and the Team Qualifications and Resource Availability section. You are encouraged to organize the technical volume as we show in the template. You can reorder the key area sections if that's helpful to build your narrative. You should ensure the key area sections are defined and include the content we request within that section.

I want to underscore the review criteria for TRACE-Gallium align with these key sections. [The Technical Volume](#) is also where you include relevant supplemental information. This is integrated either in the key area sections or as an additional addendum that can be integrated in [the Technical Volume](#). This addendum must fit within the 10-page maximum. If we can go to the next slide, please.

One component on the final key area of [the Technical Volume](#) is the Team Qualifications and Resource Availability section. I want to draw to your attention that we do have a table structure for this. In this table, you identify the organizations and key personnel in the projects. This is where you're describing capabilities, expertise, responsibilities, and relevant resources being leveraged. There should be a separate table for each organization and each table reports the cost share for each organization.

We recommend that the cost share commitment for each organization is broken out in phases, Phase 1 and Phase 2, and we will work with ENERGYWERX to update the [Technical Volume Template](#) to clarify this interest. You may need to hire staff to support this work, and so your staff line can acknowledge that positions would need to be hired. There may also be general positions required for the project, but you wouldn't identify these staff as key persons. Please feel free to indicate these roles to the extent it feels appropriate for your project application. Note that key persons identified in these tables are the people that need to submit a resume, so the connectivity across this application. I'm just about done. Just a few more slides. Let's

talk about the review criteria. We can advance to the next slide, please.

The criteria will determine if the applicants have sufficiently developed and met the Trace Gallium objectives. We're going to be looking to see if you've developed a project plan to achieve the objectives that you've developed and de-risked a novel Gallium recovery technology, we're going to be looking at a business plan that supports further scale up and commercialization of the Gallium recovery technology and we're going to assess your team, your access to the metal processing stream and the equipment and facilities to validate the technology under operational conditions and again, note how that these are aligning with the work plan template and the technical volume criteria.

Let's see, three more things to cover. If we can advance to eligibility requirements, we as part of the application are going to be looking for success of your Gallium recovery technology from a feedstock representative of the proposed metal industry processing stream. So, this is an area where it is important to develop that, gather that data now if it's not ready already. We are going to be looking for a letter of support from your industrial partners and other key persons of the team. We are also going to be looking for a description of the potential for scale up. This is meant to be a rapid prototyping award, but to be in aligned with the administration, we are looking to reactivate the domestic gallium supply. That means we are looking for projects that are producing gallium. Let's advance to the next slide, please.

An important component we've highlighted several times is this 20% non-federal cost share for each phase of the project, your sources. So what cost share is, is the portion of the project costs not borne by the federal government. Sources of cost share can include internal capital, private loans, state and local programs. Not allowed cost share include foregone profits or pre-award costs. Your cost share is reported in at least the work plan and in the team qualifications and abilities table of [the Technical Volume](#).

DOE is going to reimburse 80% of eligible project costs up to that \$5,000,000 cap. Let me just say that again, we're going to fund 80% of total project costs or 5 million, whichever is less. Let me just break out a few examples of what that means. In example one, the total project budget on the right is 6.25 million. DOE is going to

fund 80% of that total project budget, which comes out to that 5 million max. The applicant or awardee would then provide the remaining 20%, which is that 1.25 million that remaining 20%.

In example 2, the total project budget is 5 million. DOE will fund 80% of that total project budget, which is 4 million. The applicant must provide that remaining 20% cost share, bringing in at 1 million.

Example 3 is an example of a project budget being 8 million. The DOE will fund a maximum of 5 million. In this instance, the applicant needs to go above and beyond that 20% cost share to meet the full project costs.

Your total project budget should reflect your project's needs. So, example 4 represents a smaller total budget and therefore a smaller DOE and applicant budget, but still at the 80 to 20 share ratios.

With that, I'm wrapping up now. So, let's talk a bit about timeline on the next slide. The submission deadline is **November 20th at 3:00 PM Eastern**. We do have two planned office hours to continue to field your questions before the application deadline. This opportunity is hosted through our partnership intermediary ENERGYWERX, which is an independent non-federal entity. You should anticipate that even during a government shutdown that they will be able to communicate with you. In the event of a government shutdown, please continue to submit questions and engage with ENERGYWERX.

We encourage everyone to assume the posture that this proceeds as planned. We ensure this opportunity was released well-ahead of the end of the fiscal year so that you have the tools to proceed even in the event of a shutdown. We will adhere to any new guidance that we receive in the federal government and we will communicate updates to you through ENERGYWERXA. So, thank you and with that now we will answer your questions.

Carla Heron 35:55

Thank you, Devinn. Chrissi is transitioning over to Slido and as she's doing that, a quick reminder to the participants, we are using Slido for our Q&A medium. You are able to upvote existing questions that are there. This is an endeavor to not

redundantly ask the same questions. We are curating the list for redundant questions.

If we do not get through all of the questions, we'll be sending both those answered as well as those that we didn't get to over to DOE for their chance to review and provide answers. This also gives them a chance if they want to expand on anything they said, they can include that in their fuller elaborated answer and then we will post the FAQs onto the opportunity page as soon as we get the first tranche back. Again, there may be updates to that as we move forward as fuller answers are determined by DOE, we certainly will keep everything as up to date as possible. Then as was mentioned by Devinn, there will be two more opportunities for webinars where we can have Q&A sessions following their update and fuller presentations of anything that people seemed in particular to be focused on and having questions about. So again, thank you. We're going to go into the Q&A session now. So, Chrissi I'll pass the mic back to you.

Chrissi Emery 37:29

Thank you, Carla. We'll jump off with the first question.

Is there a way for me to reach out to interested industrial host sites to work with?

Lambert, Devinn 37:39

I'll take a first run at some of these questions. Yes, there is. [We have a Teaming Partner List available on ENERGYWERX's website.](#) Thank you for posting that again. This is one way for you to see who has expressed interest in working on this opportunity.

Chrissi Emery 37:59

I'm just going to add that [the Teaming Partner List](#), which I'm presenting right now, once you fill it out, you'll get access to the report to see who else has filled it out as well. Thank you, Devinn.

What counts as a letter of support?

Lambert, Devinn 38:15

For a letter of support, what we're going to be looking for is your industrial host stating their interest and their involvement in the project.

We would be looking to see at what level this letter of support has been signed as an indication for the authorization for the level of work. It's those type of factors that we would look into.

Chrissi Emery 38:51

Perfect.

Are FFRDC labs eligible to apply for both lead and subrecipient applicants?

Lambert, Devinn 39:00

FFRDCS would be our DOE National Laboratories, the National Nuclear Security Administration labs, and other federal labs. They may participate as sub-recipients, not as lead applicants. I'll leave it there, and there's more information on the frequently asked questions.

Chrissi Emery 39:27

How many applications does DOE plan to award?

Lambert, Devinn 39:33

As Burt said in the beginning, we're looking anticipating to award one to three projects depending on merit. We may select alternates if there are more meritorious projects than funds currently obligated. What we want to see is reactivation of domestic gallium production. What we are seeking to do is make sure that we are in a position to achieve that. Burt wants his swimming pool of gallium.

Chrissi Emery 40:07

May an industrial host partner apply with more than one technology developer?

Lambert, Devinn 40:14

This is a great question. Yes, they may.

It's important that in the industrial host or that each application meets the requirements for every application.

Chrissi Emery 40:33

Thank you.

As a technology developer, is it is a patent enough to prove I have a viable extraction process?

Lambert, Devinn 40:44

I'm going to pause on this one. It might be one that we have to take back.

Thomas, Burt 40:52

It's probably best that we respond later. I think the intent is Phase 1 is the phase where you would prove that it is possible to move to Phase 2. I don't think we can answer that a patent without knowledge about the specifics of the patent would prove that.

Lambert, Devinn 41:13

What I can say from what we've presented at application, you need to demonstrate your technology works on a metal for recovering gallium on a metal processing stream similar to what you are proposing to use. Then there are different requirements once you're under award.

Chrissi Emery 41:46

Thank you both.

How many awards are expected for Phase 1 and Phase 2? What is a typical POP for a Phase 1 effort?

Thomas, Burt 41:57

So a Period of Performance is what they mean. So, I'll take this one. If the implication is we're planning to award more Phase 1s than Phase 2s, that is incorrect here. The

idea is Phase 1 leads to Phase 2, and so the number of awards would include Phase 1 and 2.

Chrissi Emery 42:26

How should we document and verify the fair market value of gallium containing feed use as the in-kind cost share?

Lambert, Devinn 42:39

This is one that we'll have to circulate with some legal folks.

Chrissi Emery 42:46

Are Canadian companies eligible to participate?

Lambert, Devinn 42:53

I think as well, we'll look to try to get this question answered as soon as we can.

Chrissi Emery 43:04

What does it mean that DOE may select alternates if a number of projects meritorious for funding is greater than funds currently obligated to trace GA?

Thomas, Burt 43:15

I believe that the question has only one clear meaning, which is that we have some flexibility to obligate more to respond to the need of this opportunity.

Chrissi Emery 43:37

Thank you.

For proposal submission, is it required that the lead be a PI affiliated with a university or national lab, or can anyone serve as a team lead?

Thomas, Burt 43:50

This is a great question. Is it required that the lead be a PI? Absolutely not.

No, this is open to anybody who has a technology or a feedstock and they want to

prove it. The idea isn't that you have to be a lab person or you have to be an academic. The goal here is to reach everybody with an opportunity.

Lambert, Devinn 44:24

Just a reminder that national labs cannot serve as leads.

Chrissi Emery 44:31

Thank you both.

What is ideal TRL level for Phase 1 entry and Phase 1 exit?

Lambert, Devinn 44:43

TRL is Technology Readiness Level. This can have some nuanced distinctions. How we describe this opportunity is we are looking for rapid prototyping which aligns with the TRL 5 for what we have we have used to define this opportunity.

We believe that projects exiting or entering Phase 1, you are likely going to still be in a TRL 5 zone during the full opportunity here.

Thomas, Burt 45:28

TRL gets thorny in part because it's in the eye of the beholder. If you have a technology that's been proven on a different feedstock, what's the TRL on the new feedstock? Pretty low. The problem is you can pretty quickly prove it's going to work. So I will, I will say that answering the question with any specificity is going to be impossible.

Chrissi Emery 45:54

All right, let's move on.

Will there be any future funding solicitations for extracting gallium from coal ash?

Thomas, Burt 46:04

We're not going to comment on what we will do in the future. I do recognize the importance of the question but won't answer.

Chrissi Emery 46:20

All right.

Does cost share apply to this project?

Lambert, Devinn 46:25

Yes.

Chrissi Emery 46:28

Thank you.

Are you interested in any specific feedstock, secondary streams or waste streams, etc.?

Thomas, Burt 46:41

The opportunity clearly identifies the metal processing streams of interest that would serve as the place where the gallium comes from.

Lambert, Devinn 46:58

There are components that cover this when thinking about your application. The section focused on market and scale up is where your specific feedstock that you work with that dynamic. But what comes next? What's the potential of it? It would factor in.

Chrissi Emery 47:23

All right.

If there is a government shutdown, would that affect the deadline for submitting proposals?

Lambert, Devinn 47:30

I just want to foot stomp on this. We encourage everyone to assume that our timelines are going to stay in place. We made sure we've released this in advance of

the government's end of the fiscal year, so that you all could work independently to prepare applications. ENERGYWERX is an independent, non-federal entity. We anticipate that they will be able to communicate with you. You should continue to submit questions to them and engage with them. We will adhere to any new guidance that we receive and we'll communicate updates to you through ENERGYWERX. If anything changes on the deadline for submitting proposals, that will be clearly listed on the website. However, please proceed as planned no matter what happens at midnight tonight.

Chrissi Emery 48:29

What is a typical dollar value for the Phase 1 effort?

Lambert, Devinn 48:32

We did not define this because we anticipate technology developers and industrial partners for different feedstocks will have different needs. What we are going to be evaluating is if the dollar value that you propose makes sense for the work that you are proposing to conduct.

Chrissi Emery 48:59

Thank you.

Is there any funding limit for FFRDC as subrecipient?

Lambert, Devinn 49:06

[We have a FAQ published on this on the opportunity page.](#)

Chrissi Emery 49:17

Does the entire feedstock have to come from inside the US?

Thomas, Burt 49:22

I think we'll have to answer that one separately.

Chrissi Emery 49:28

No problem.

What are some prospective metal processing streams for gallium?

Thomas, Burt 49:35

As an example, alumina production is a prospective metal processing stream. I'd say the alumina production and zinc refining are just two examples. I can imagine there are others.

Chrissi Emery 49:57

Will national labs be awarded funding directly by DOE via work authorization, or will we be awarded through the prime applicants?

Lambert, Devinn 50:12

The FFRDCS effort in aggregate shall not exceed 10% of the total share of the projects. I will add that in each phase of the project it should be at that that threshold as well. Give me a moment to make sure I have the answer correct for this latest question.

Chrissi Emery 50:49

OK.

Do you want me to go ahead and ask the next question, Burt? Ok.

Does the metal production stream have to be ongoing or can it be historically accumulated pile?

Thomas, Burt 51:16

I don't think a pile is a stream. The question is asking if there's a pile of material, could it be processed into a stream and then be recovered? That is different. In that case, the process doesn't exist. However, if there's a waste material that is already in a stream that's being processed, then it would be in a processing stream. We're defining the actual feedstock that delivers the middle process stream. We're trying to be agnostic about that, but we want the existing process to be the target for recovery right now.

Lambert, Devinn 52:04

To go back to that last FFRDC question, selectees will receive the full funding

through one agreement through ENERGYWERX. it's going to be the selectees that prime that's going to be responsible for funding and executing the necessary agreements to sub receive. ENERGYWERX and DOE are not going to be involved in assisting these activities.

Chrissi Emery 52:32

Thank you.

Does the technology have to be deployed on site of industrial partner?

Lambert, Devinn 52:43

What the technology needs to be capable of doing is running a continuous 14-day operation on the metal processing stream. We are agnostic to other parameters as part of the flow sheets. Baselines ask about the parameters of the operating conditions of your industrial partner, but some of these details need to be specifically executed for the technology developer and the industrial partner.

Thomas, Burt 53:21

That's probably a better answer than mine, which would have been probably.

Chrissi Emery 53:29

Is there the possibility that based on Phase 1 result, DOE will choose not to proceed with Phase 2?

Lambert, Devinn 53:37

Yes.

Chrissi Emery 53:42

Thank you.

Can a waste stream be from an industrial industry that is not metal industry?

Lambert, Devinn 53:56

This would be better asked if you were more specific about what waste stream you're talking about, but we are requesting metal processing streams and so the

requirement is that the technology is recovering gallium from.

An industrial partner with a metal processing stream and perhaps as what constitutes a metal processing stream, it comes from real industrial operations to Burt's Point.

We are looking for a process, an ongoing processing to be occurring, not just a pile, as an example.

Thomas, Burt 54:41

I wanted to add a point that there are industrial streams that are essentially processing waste or metal waste, right that that would be considered an example of an industrial process stream. I think the answer is yes, but it would probably mean that our definition of a metal industry and yours is different. It's a metal processing stream which may or may not be producing a metal industry product.

Lambert, Devinn 55:22

What we say on the frequently asked questions is it's the responsibility of the applicant to ensure that they justify why the feedstock is clearly a metal processing feedstock.

Chrissi Emery 55:40

All right. I think we have, we're getting close to time, so I'll ask one more question.

Can the industrial partner be the same company as a technology developer, i.e. can the applicant be in control of their own metal processing stream?

Thomas, Burt 55:54

That's a definitely.

Chrissi Emery 56:01

All right.

Lambert, Devinn 56:01

Is it required to partner with national labs and academia? No.

Chrissi Emery 56:11

Is the maximum funding of 5 million intended to be distributed in total across one to three projects, or can each funded project receive up to 5 million?

Thomas, Burt 56:12

Each funded project could receive up to 5 million in federal cost share.

Lambert, Devinn 56:35

Do we need to propose for both phase one and phase two in the first submission? The answer is you are presenting your project plan for the full project phase one and phase two at once.

With that, Carla has come online to help Burt and I close that out.

Carla Heron 57:00

Yes, and I do thank you for that. We are getting close to time, and we do respect everyone's schedules. We know how tenuous it can be. A few quick notes. As Burt mentioned, we will have two more webinars. They will be on **October 14th**, which is a Tuesday and **November 6th, a Thursday, 3:00 to 4:00 PM Eastern Time**. In both those cases, again, we will have Devinn and Burt and perhaps others that can both give an overview of the opportunity as well as answer questions. In the meantime, if you do have questions, please reach out to info@energywerx.org. They'll be posting that into the chat. You can capture it there. You can reach out to our team.

We can pose questions to DOE offline and then post them to the FAQs on the main page of the opportunity page itself. So that is always a possibility going forward.

A couple of other things to note, this is a partnership intermediary scenario.

That DOE is working with DEFENSEWERX, doing business as ENERGYWERX. In this case it is not a grant, or it is not a direct award from DOE. Rather this is an award through DEFENSEWERX, doing business as ENERGYWERX and it is a firm fixed price award. It's not a grant, and what that also means is the payments ultimately are in arrears on a Net 30 schedule. So as each of the tasks that are laid out to be completed are in fact successfully done supporting documentation is submitted with an invoice and then the invoice is approved through DOE and there is a Net 30 timeline to remit payment. So, we want to keep that upfront.

Obviously if you move forward with a successful application, there will be more discussion on this and the details will be laid out in the actual Terms and Conditions and the Statements of Effort themselves. Again, this is an opportunity that we hope everyone takes the time to read through the extensive details that Devinn and Burt and the team have made on [the opportunity page](#). I think a lot of information is there that will help you moving forward.

If you do have questions, please do reach out. We hope to see everybody at the upcoming webinars and the final reminders are there is a [Teaming Partner List](#) and in that you're able to identify if you are a technology developer or if you are an industrial partner that has access to the feedstock and the metal processing stream. You are required to have a letter of attestation with your application that you will be working together and the details that support that. So please take the time to review all of the information, sign up on the [Teaming Partner List](#). You can see who is there already and start to do your outreach to form those partnerships. And if you have questions, reach out to the ENERGYWERX team. We're happy to help you as you prepare for an application that's due on **November 20th, 2025 at 3:00 PM** Eastern. So with that, Devinn and Burt, we thank you for your time. Do you have any final thoughts before we wrap up?

Lambert, Devinn 1:00:43

Thank you for your interest and we really look forward to reviewing the applications.