

**U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy**

**Geothermal Technologies Office
NATIONAL LABORATORY CALL FOR PROPOSALS**

National Lab Funding for Fiscal Year 2024

This Lab Call is being issued by the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Geothermal Technologies Office (GTO).

Table of Contents

- I. Lab Call Description..... 3
 - A. Background and Context..... 3
 - i. Overview and Purpose 3
 - ii. Timeline and Process Logistics 4
 - Timeline 4
 - Process Logistics..... 4
 - B. Key Considerations and Topic Area(s)..... 5
 - i. Key Considerations..... 5
 - ii. Topic Area Descriptions..... 7
 - Topic Area 1: Salton Sea Geochemical and Thermodynamic Database Development 7
 - Topic Area 2: Supercritical Drilling Material Analysis 9
 - Topic 3: Characterization of Lithium and Other Critical Minerals of Known Geothermal Resource Areas 10
 - Topic Area 3a. Characterization of Lithium and Other Critical Minerals of Smackover Known Geothermal Resource Area 14
 - Topic Area 3b. Characterization of Lithium and Other Critical Minerals of Known Geothermal Resource Areas or Oil and Gas Basins 14
- II. Application Submission and Review Information..... 15
 - A. Application and Submission Details 15
 - i. Application Process 15
 - ii. General Proposal Requirements..... 15
 - iii. Proposal Content..... 15
 - Full Applications 16
 - Technical Volume 17
 - Resumes..... 21
 - Letters of Commitment 21
 - Summary/Abstract for Public Release 21
 - Summary Slide 21
 - Budget for DOE/NNSA FFRDC (if applicable) 22
 - Authorization for non-DOE/NNSA or DOE/NNSA FFRDCs (if applicable)..... 22
 - SF LLL: Disclosure of Lobbying Activities 22

Waiver Requests: Foreign Entities and Foreign Work (if applicable).....	22
Data Management Plan	23
Diversity, Equity, and Inclusion (DEI) Implementation Plan	23
Treatment of Application Information	25
B. Application Review Details.....	25
i. Merit Review and Selection Process	25
ii. Technical Review Criteria	26
Full Applications.....	26
iii. Selection for Award Negotiation	27
iv. Selection Notification	28
v. Questions and Agency Contacts	28
Appendix A: Waiver Requests and Approval Processes:	29

I. Lab Call Description

A. Background and Context

i. Overview and Purpose

EERE National Laboratory Guiding Principles require all offices to pursue a merit review of direct-funded National Laboratory work. In line with these principles, GTO is issuing this lab call for fiscal year 2024 (FY24).

Some labs have continuing multi-year projects that have already gone through the merit review process. These will continue to be reviewed through the annual peer review process. Labs should work with GTO project and program managers to ensure that ongoing projects are included in the annual operating plans (AOP) to meet AOP deadlines. This lab call will only pertain to the new topic areas below.

Building a clean and equitable energy economy and addressing the climate crisis is a top priority of the Biden Administration. This lab call will advance the Biden Administration's goals to achieve carbon pollution-free electricity by 2035 and to "deliver an equitable, clean energy future, and put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050"¹ to the benefit of all Americans. The Department of Energy is committed to pushing the frontiers of science and engineering, catalyzing clean energy jobs through research, development, demonstration, and deployment (RDD&D), and ensuring environmental justice and inclusion of underserved communities.²

The research and development (R&D) activities to be funded under this lab call will support the government-wide approach to the climate crisis by driving the innovation that can lead to the deployment of clean energy technologies, which are critical for climate protection. Specifically, this lab call will address the Biden Administration's Executive Order on America's Supply Chain by strengthening the resilience of America's supply chains by diversifying and facilitating greater domestic production of adequate stockpiles of critical minerals³. Based on research conducted by Lawrence Berkeley

¹ Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," January 27, 2021.

² The term "underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the definition of "equity." E.O. 13985. For purposes of this Lab Call, as applicable to geographic communities, applicants can refer to economically distressed communities identified by the Internal Revenue Service as Qualified Opportunity Zones; communities identified as disadvantaged or underserved communities by their respective States; communities identified on the Index of Deep Disadvantage referenced at <https://news.umich.edu/new-index-ranks-americas-100-most-disadvantaged-communities/>, and communities that otherwise meet the definition of "underserved communities" stated above.

³ Executive Order 14017, "Executive Order on America's Supply Chains," February 24, 2021.

National Laboratory (LBNL)⁴ investigating lithium resources collocated with geothermal development in the Salton Sea area of California, GTO identified areas of research that need further investigation and will directly aid in the advancement and development of the U.S. critical material resources. Topic Areas 1 and 2 outlined below aim to support better understanding of how to engineer and access a geothermal resource that is collocated with subsurface concentrations of one or more critical minerals. With better engineering, critical minerals from a geothermal resource can be maximized.

With the success of LBNL work at the Salton Sea, GTO would like to expand research to other Known Geothermal Resource Areas (KGRAs) by characterizing and quantifying lithium and other critical minerals within a geothermal reservoir. Topic Area 3 aims to characterize other known resources of critical minerals from geothermal brines, GTO aims to meet the Administration’s need to diversify the Nations resources of critical minerals.

In addition, this lab call will emphasize increasing diversity of research staff, increasing diversity of voices in research design, and or increasing quantification and emphasis on supporting underserved communities.

ii. Timeline and Process Logistics

Timeline

KEY DATES	
Lab Call Release Date:	April 18, 2024 12pm ET
PROPOSAL DEADLINE AND DECISION DATES	
Full Application Submission Deadline(s):	May 20, 2024 11:59pm ET May 31, 2024, 11:59pm ET
Review Comments Available to Applicants:	June 2024
Decision Date(s):	July 2024
Expected Beginning Award Issue Date(s):	September 2024

Process Logistics

All communication to GTO regarding this Lab Call must use GeoCriticalMinerals@ee.doe.gov.

- **PROPOSAL SUBMISSIONS:** To apply to this Lab Call, application materials must be submitted through Lab Call mailbox at GEOCriticalMinerals@ee.doe.gov.

Applicants are responsible for meeting the submission deadlines. DOE strongly encourages all applicants to submit the required information at least 24 hours

⁴ Dobson, Araya, Brounce et al., Characterizing the Geothermal Lithium Resources at the Salton Sea, 2023, [escholarship uc item 4x8868mf.pdf \(lbl.gov\)](#).

in advance of the submission deadline. Applicants should not wait until the last minute—internet and data server traffic can be heavy in the last hours before the submission deadline, which may affect the applicants’ ability to successfully submit the required information before the deadline.

- **QUESTIONS DURING OPEN LAB CALL PERIOD:** Specific questions about this Lab Call should be submitted via e-mail to GeoCriticalMinerals@ee.doe.gov GTO will provide answers related to this Lab Call. GTO will attempt to respond to a question within 3 business days. To ensure fairness for all lab participants, please do not ask individual GTO staff questions directly.
- **NOTIFICATION OF SELECTION:** When selections are finalized, lab leads will receive an email from GeoCriticalMinerals@ee.doe.gov.

B. Key Considerations and Topic Area(s)

i. Key Considerations

- **AVAILABLE FUNDING:** There is approximately **\$5 \$6.6 million in annual funding** available to fund **all** projects solicited in this Lab Call pending appropriations, program direction, and go/no-go decision points.
- **NON-LAB PARTNERS:** Labs partnering with industry, academia, or other non-lab entities to perform work under this Lab call must enter into CRADAs with those partners within time parameters set forth by the funding program.
- **ELIGIBILITY:** All DOE/National Nuclear Security Agency (NNSA) Federally Funded Research and Development Centers (FFRDCs), and all National Laboratories, are eligible to submit proposals as prime awardees, unless specified otherwise. Proposals that involve more than one laboratory are also allowed. Only one proposal per topic area can be submitted to this Lab Call.
- **DIVERSITY, EQUITY, and INCLUSION:**
It is the policy of the Biden Administration that:

[T]he Federal Government should pursue a comprehensive approach to advancing equity⁵ for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the

⁵ The term “equity” means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. E.O. 13985.

whole of our Government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments, and agencies (agencies) must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity.

By advancing equity across the Federal Government, we can create opportunities for the improvement of communities that have been historically underserved, which benefits everyone.⁶

As part of this whole of government approach, this lab call seeks to encourage the participation of underserved communities and underrepresented^{7,8} groups. Applicants are highly encouraged to include individuals from groups historically underrepresented, in STEM on their project teams. As part of the application, applicants are required to describe how diversity, equity, and inclusion objectives will be incorporated in the project. Specifically, applicants are required to reference, if available, the existing laboratory Diversity, Equity, and Inclusion Plan and describe within the technical volume the actions the applicant will take to foster a welcoming and inclusive environment, support people from underrepresented groups in STEM, advance equity, and encourage the inclusion of individuals from these groups in the project; and the extent the project activities will be located in or benefit underserved communities.

⁶ Executive Order 13985, “Advancing Racial Equity and Support for Underserved Communities Through the Federal Government” (Jan. 20, 2021).

⁷ According to the National Science Foundation’s 2019 report titled, “Women, Minorities and Persons with Disabilities in Science and Engineering”, women, persons with disabilities, and underrepresented minority groups—blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives—are vastly underrepresented in the STEM (science, technology, engineering, and math) fields that drive the energy sector. That is, their representation in STEM education and STEM employment is smaller than their representation in the U.S. population. <https://nces.nsf.gov/pubs/nsf19304/digest/about-this-report> For example, in the U.S., Hispanics, African Americans and American Indians or Alaska Natives make up 24 percent of the overall workforce, yet only account for 9 percent of the country’s science and engineering workforce. DOE seeks to inspire underrepresented Americans to pursue careers in energy and support their advancement into leadership positions. <https://www.energy.gov/articles/introducing-minorities-energy-initiative>

⁸ Note that Congress recognized in section 305 of the American Innovation and Competitiveness Act of 2017, Public Law 114-329:

(1) [I]t is critical to our Nation’s economic leadership and global competitiveness that the United States educate, train, and retain more scientists, engineers, and computer scientists; (2) there is currently a disconnect between the availability of and growing demand for STEM-skilled workers; (3) historically, underrepresented populations are the largest untapped STEM talent pools in the United States; and (4) given the shifting demographic landscape, the United States should encourage full participation of individuals from underrepresented populations in STEM fields.

Because a diverse set of voices at the table in research design and execution has an illustrated impact on innovation, this implementation strategy for the lab-wide plan will be evaluated as part of the technical review process.

Further, to the extent the proposed project will include external partners, the applicant is encouraged to include Minority Serving Institutions⁹, Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or entities located in an underserved community. The Selection Official may consider the inclusion of these types of entities as part of the selection decision.

- **EERE NATIONAL LABORATORY GUIDING PRINCIPLES:** To ensure continued alignment with EERE lab engagement principles, applicants should consider the following when developing their proposals:
 - GTO strongly encourages projects that bring together multiple labs in a consortia-based approach to meet a high-level strategic goal, leveraging multiple lab capabilities with strong, centralized leadership.
 - To the extent possible and appropriate, GTO seeks lab projects that involve industry engagement or industry partners.

ii. Topic Area Descriptions

Topic Area 1: Salton Sea Geochemical and Thermodynamic Database Development

- Eligibility: No Restrictions
- Estimated DOE Funding Available: \$1.0 million
- Estimated Number of Projects Expected: 0 - 1
- Estimated Project Duration: 12 – 24 months

As discovered in the 2023 LBNL report, chlorite was observed to be the primary formation mineral host of lithium, with values as high as approximately 580 ppm found at a depth of approximately 2,358 meters. With this discovery, it was recommended that further analysis on rocks from deeper (hotter) and shallower (cooler) in the Salton Sea Geothermal Resource should be undertaken to test whether the mineral hosts of lithium shifts with changes in temperature and to determine how quantities of lithium evolve with depth. Topic Area 1 looks to address this recommendation by developing a database of geochemical and thermodynamic properties of typical Salton Sea Geothermal Reservoir rock to better understanding how mineral host rocks within a typical geothermal reservoir can be chemically or thermally altered to breakdown and

⁹ Minority Serving Institutions (MSIs), including Historically Black Colleges and Universities/Other Minority Institutions) as educational entities recognized by the Office of Civil Rights (OCR), U.S. Department of Education, and identified on the OCR's Department of Education U.S. accredited postsecondary minorities' institution list. See <https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>.

release lithium and other potential critical minerals. This data has the potential to better inform reservoir management and help develop more precise technoeconomic forecasting of the mineral resource.

Based on a review of the existing literature, experimental studies, and existing databases that have been compiled to-date, applicants will develop a geochemical and thermodynamic database that is specific to the Salton Sea that includes but is not limited to the following:

- Compile a uniform database that can adequately characterize the Salton Sea Geothermal Reservoir mineralogic assemblages with characteristic mineralogies by compiling all geochemical and thermodynamic data that exists for these minerals, with sources and references associated with each.
- Identify where there may be duplicative or missing data, characterize the data discrepancies, and develop a plan for resolving those discrepancies.

After data is compiled and discrepancies are identified, applicants will be asked to validate the existing data against real world materials by:

- Devising a sampling and experimental program to test and validate existing geochemical and thermodynamic models on a set of well-defined and constrained data from the Salton Sea geothermal reservoir.
- Sampling and experiments should be tailored to evaluate a batch of expected reservoir brine types and expected reservoir mineralogy. Data and experiments should also consider representative non-condensable gas compositions and partial pressures. Experimental work could, for example, include high-temperature autoclave water-gas-rock laboratory experiments to validate expected brine and critical mineral chemistry evolution as predicted by the geochemical and thermodynamic database with experimental results.

The data is required to be verified in the above ways and may be validated in additional ways as the applicants see fit. Once data is validated, the database should be extended into supercritical thermodynamic conditions that can exist in the Salton Sea geothermal reservoir. Applicants will be asked to investigate supercritical conditions by:

- Using site-specific brines and reservoir lithologies, devise a sampling and experimental program to develop a robust set of experimentally determined and validated thermodynamic data at and above supercritical water conditions and for mineral assemblages expected in the Salton Sea.
- At the conclusion of Topic Area 1, applicants will need to produce a publicly available database that summarizes the work accomplished throughout the project.

The investigation of supercritical conditions is required to be validated by the methods described above but is not limited to and may be validated in additional ways as the applicants see fit.

Topic Area 2: Supercritical Drilling Material Analysis

- Eligibility: No Restrictions
- Estimated DOE Funding Available: \$0.5 million
- Estimated Number of Projects Expected: 0 - 1
- Estimated Project Duration: 12 – 24 months

As shown in the LBNL report Characterizing the Geothermal Lithium Resource at the Salton Sea, geologic modeling forecasted lithium production over 20 years using current injection and production rates with no growth in brine production. Results showed that this would remove 95% of the available lithium from the brine (Figure 1), and thus more effort is required to identify potential resources that exist beyond current drilling capabilities.

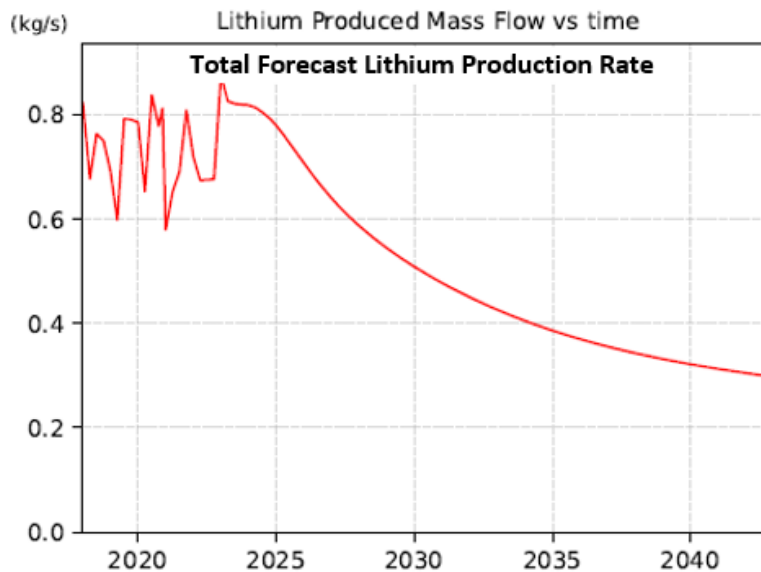


Figure 1. Lithium production curve of Salton Sea geothermal reservoir (Dobson, 2023)

To increase access to the geothermal reservoir, and stabilize lithium production over time, novel drilling technology improvements are needed to fully access the geothermal resource. However, drilling into the Salton Sea geothermal reservoir can be more challenging than typical geothermal drilling due to reservoir temperatures near or at supercritical conditions. Drilling technologies that access the Salton Sea geothermal resource must be able to survive and operate in supercritical conditions. Therefore, identifying baseline materials needed to successfully operate in supercritical conditions will be key to maximizing access to geothermal resources.

Based on a review of the existing literature, experimental studies, existing databases, and the GTO funded roadmap on advanced geothermal well construction¹⁰, applicants will develop an analysis of drilling materials that is specific to supercritical conditions that include but are not limited to the following:

- Compile a uniform database that identifies current drilling materials used in supercritical drilling environments. The database should include detailed information on operating temperatures, material characteristics, time to failure, and limitations of the material.
- Materials should include, but are not limited to bits, pipe, cements, lost circulation materials, and drilling fluids. Drilling technologies such as directional measurement tools, electronics, or batteries are outside the scope of this topic area.
- Identify where there might be missing data and/or additional, unmet material needs. Generate a gap analysis to support where additional RD&D efforts are needed to develop materials for supercritical drilling.

After data is compiled and discrepancies are identified, applicants will be asked but are not limited to validating the missing data by:

- Devising a program to test and validate materials at supercritical temperatures to document their behaviors and limitations.
- At the conclusion of Topic Area 2, applicants will need to produce a publicly available database that summarizes the work and recommend improvements needed to drill in supercritical conditions.

Topic 3: Characterization of Lithium and Other Critical Minerals of Known Geothermal Resource Areas

- Eligibility: No Restrictions
- Total Estimated GTO Funding Available: \$3.6 million
- Total Estimated FECM Funding Available: \$1.0 million
- Total Estimated AMMTO Funding Available: \$0.5 million
- Estimated Dollar Amount Per Project: \$1.0 million
- Estimated Number of Projects Expected: 0 - 5
- Estimated Project Duration: 24 – 36 months

With the growth of the electrical vehicle market and the increasing demand for battery energy storage, the need for reliable, abundant, and domestic sources of lithium is critical. Beyond the traditional value that geothermal resources can provide for electricity or thermal applications, tapping into geothermal brines for valuable

¹⁰ Price et al., A Technology Road Map for Advanced Geothermal Well Construction, 2023, [Pub196313.pdf \(ornl.gov\)](#).

byproducts, including lithium, presents a promising opportunity to meet this need. It is expected that global demand for lithium will increase by 150% by 2030 due to widespread adoption of electric vehicles and grid-scale battery storage, and thus lithium supplies will become a crucial element in the clean energy supply chain (Figure 2).

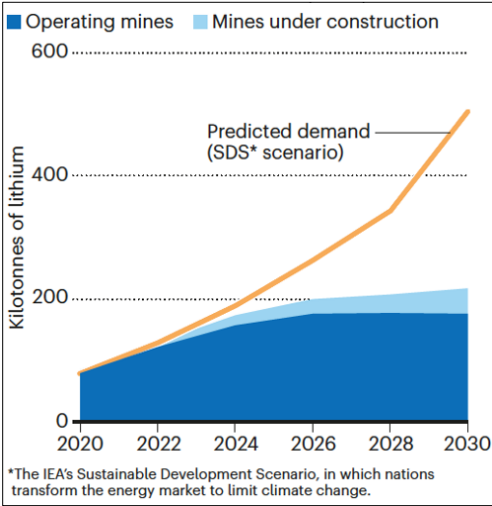


Figure 2. Predicted global demands of lithium (Haddad et al., 2023)

To meet this demand, geothermal brines could be one potential source of lithium. GTO has funded several projects in recent years exploring the potential to extract critical minerals, including lithium, from geothermal fluids from the Salton Sea Known Geothermal Resource Area (KGRA). The results of the LBNL study showed enough lithium located in the Salton Sea KGRA to supply 382 million electric vehicle batteries. With these exciting results, GTO would like to expand beyond the Salton Sea. The USGS Produced Waters Database has shown that the Smackover Formation is at or near the top of a list of potential domestic reservoirs with resource potential for lithium. Thus, GTO is partnering with the Office of Fossil Energy and Carbon Management (FECM) to consider the Smackover KGRA and related oil and gas production areas in Topic Area 3a and to other KGRAs that have the potential to or are currently producing lithium and other critical minerals in the U.S., Alaska and Hawaii as explained in Topic Area 3b (Figure 3).

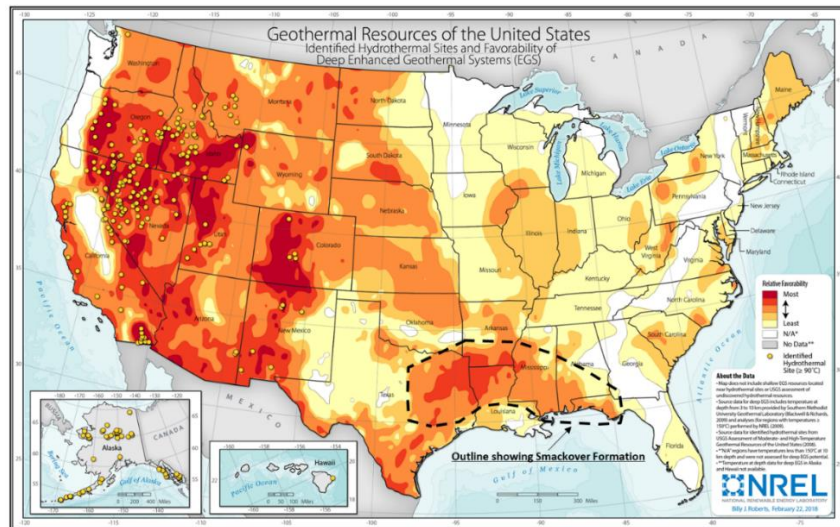


Figure 3. Smackover Formation Overlapping Known Geothermal Resource Area (NREL, 2018)

While academic¹¹ and private industry¹² research has been conducted to characterize the lithium resource in the Smackover formation, the data and coverage of the Smackover remains limited. Continued research is paramount to identifying the source of lithium and maximizing the potential of mineral extraction within the Smackover KGRA and other KGRAs in the United States.

Applicants must apply to either Topic Area 3a or Topic Area 3b, must clearly identify the Topic Area in the application, and must identify if using geothermal brine and/or oil and gas produced waters for analysis.

Applicants will be asked to, but are not limited to, answer the following questions for both Topic Area 3a and 3b:

1. How much lithium is present in the KGRA geothermal brine or oil and gas produced waters?
2. What is the volume of the KGRA geothermal and/or oil and gas reservoir?
3. What controls the concentration of the lithium in the KGRA geothermal brine and/or produced waters?
4. How fast will the lithium concentration of the KGRA decrease overtime as a result of commercial production of the lithium?
5. What are the sources of lithium present in the KGRA geothermal brines and/or oil and gas produced waters?

¹¹ Daitch P.J., Lithium Extraction from Oilfield Brine, 2018, <https://repositories.lib.utexas.edu/server/api/core/bitstreams/62ee0d10-271b-487a-824f-7b1994923411/content>.

¹² Worley Limited. *Preliminary Economic Assessment of LANXESS Smackover Project. Standard Lithium, 2019*, <https://www.sec.gov/Archives/edgar/data/1537137/000119312521204052/d194326dex991.htm>.

6. Are there other critical materials (CM) besides lithium that have potential produceable quantities in the KGRA geothermal brines and oil and gas produced waters?
7. What, if any, would you estimate to be a concentration range (or minimum concentration) of lithium (including other potential critical materials) to justify commercial production in the region of study?
8. What are the potential environmental impacts associated with lithium (and other CM) extraction from the geothermal brines in terms of water and chemical usage, air quality impacts, and induced seismicity?
9. How would potential geothermal power or direct use output from the geothermal brine benefit the economics of co-production of geothermal and lithium (and other CM) extraction.

Based on a review of the existing literature, experimental studies, and existing databases that have been compiled to-date, applicants will be required, but are not limited to:

- Compile existing data of the study area to develop better constrained geologic models and estimates of the lithium resource. Applicants will need to determine where and how the lithium is being deposited into the geothermal brine or oil and gas produced waters, and how the lithium could decline over time. Applicants will also be asked to create simplified reservoir models to predict production declines. These production models will need to include production declines in lithium brine content caused by reinjection of lithium depleted brines into the reservoir and evaluate potential for additional lithium contributions from reservoir rocks to geothermal brine or oil and gas produced waters over time. Included with geologic modeling, applicants will need to identify potential environmental impacts associated with the extraction of lithium from KGRA geothermal brine or oil and gas produced waters.

After data is compiled and discrepancies are identified, applicants will be required, but are not limited to:

- Incorporating additional datasets by partnering with the USGS, state geologic surveys, or industry partners or further laboratory testing of core, geochemistry, or other data collected.
- At the conclusion of Topic Area 3, applicants will need to produce publicly available datasets and a final report that summarizes the work accomplished throughout the project.

Topic Area 3a. Characterization of Lithium and Other Critical Minerals of Smackover Known Geothermal Resource Area

As described above, GTO aims to diversify the Nation’s supply of critical material resources by quantifying the lithium resource of the Smackover KGRA and potential oil and gas production regions. The Smackover KGRA expands Arkansas, Texas, Mississippi, Louisiana, Alabama, and a portion of Florida (Figure 3). Applicants under Topic Area 3a, can choose to quantify the lithium resource(s) over the entirety of the Smackover KGRA and potential oil and gas production regions, or a smaller area based on availability of data and resources. Applicants may also include quantification of other known critical minerals as part of their proposal.

Applicants are encouraged but not required to engage with industry or State partners invested in the investigation of the Smackover KGRA and potential oil and gas production areas.

Topic Area 3a eligibility, requirements, and deliverables are listed above under the main Topic Area 3 header.

Topic Area 3b. Characterization of Lithium and Other Critical Minerals of Known Geothermal Resource Areas or Oil and Gas Basins

Topic Area 3b aims to expand identification of lithium and other critical material resources from geothermal brines collocated with a KGRA. As shown in Figure 3, KGRAs are located throughout the United States, and may vary in their utilization for heating, power production, or have yet to be tapped for their geothermal potential such the Great Salt Lake region. Other areas not represented on Figure 3, but known areas of geothermal, are also included under Topic Area 3b such as Alaska and Hawaii. The proposed KGRA under Topic Area 3b must show potential for economic mineral extraction from a geothermal brine as part of the proposal.

Proposals also included under Topic Area 3b are KGRAs where there is current production of lithium or other critical minerals from a geothermal brine but show the lack of adequate quantification, understanding, and maximization of the resource, and/or where there is current production of oil and gas resources with produced waters that have the potential for recovery of lithium or other critical materials.

Topic Area 3b eligibility, requirements, and deliverables are listed above under the main Topic Area 3 header.

II. Application Submission and Review Information

A. Application and Submission Details

i. Application Process

To apply to this Lab Call, applicants must submit application materials through the lab call mailbox at GeoCriticalMinerals@ee.doe.gov. All submissions must conform to the guidelines for format and length, and be submitted at, or prior to, the deadline listed.

Applicants will be required to include project information and details in their application that will be used to develop and accelerate negotiations of FY 24 AOPs if selected. Any information the applicant considers to be of significance for the review process must be included in the proposal.

ii. General Proposal Requirements

Proposals should be formatted for 8.5 x 11 paper, single spaced, and have 1-inch margins on each side. Typeface size should be 12-point font, except tables and figures, which may be in 10-point font.

iii. Proposal Content

Proposal content aligns with content required in the EERE AOP project forms, with additional information to assist reviewers in evaluating technical details. The narrative should build on the information provided. **Applicants must include all content they wish to have reviewed in the proposal.**

SECTION	PAGE LIMIT	DESCRIPTION
Cover Page Section		The cover page should include the project title, the specific announcement Topic Area being addressed (if applicable), both the technical and business points of contact, names of all team member organizations, and any statements regarding confidentiality.
Technology Description		Applicants are required to describe succinctly: <ul style="list-style-type: none">• The proposed technology, including its basic operating principles and how it is unique and innovative;• The proposed technology's target level of performance (applicants should provide technical data or other support to show how the proposed target could be met);• The current state-of-the-art in the relevant field and application, including key shortcomings, limitations, and challenges;• How the proposed technology will overcome the shortcomings, limitations, and challenges in the relevant field and application;• The potential impact that the proposed project would have on the relevant field and application;

		<ul style="list-style-type: none"> The key technical risks/issues associated with the proposed technology development plan; and The impact that EERE funding would have on the proposed project.
Addendum		<p>Applicants are required to describe succinctly the qualifications, experience, and capabilities of the proposed Project Team, including:</p> <ul style="list-style-type: none"> Whether the Principal Investigator (PI) and Project Team have the skill and expertise needed to successfully execute the project plan; Whether the applicant has prior experience which demonstrates an ability to perform tasks of similar risk and complexity; Whether the applicant has worked together with its teaming partners on prior projects or programs; and Whether the applicant has adequate access to equipment and facilities necessary to accomplish the effort and/or clearly explain how it intends to obtain access to the necessary equipment and facilities. Applicants may provide graphs, charts, or other data to supplement their Technology Description.

Full Applications

- EERE will not review or consider ineligible Full Applications.
- 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:

SECTION	FILE FORMAT	PAGE LIMIT	FILE NAME
Technical Volume	PDF	15	LeadOrganization_ProjectTitle_TechnicalVolume
Resumes	PDF	3	LeadOrganization_ProjectTitle_Resumes
Letters of Commitment	PDF	1	LeadOrganization_ProjectTitle_LOCs
Summary/Abstract for Public Release	PDF	1	LeadOrganization_ProjectTitle_Summary
Summary Slide	MS PowerPoint	1	LeadOrganization_ProjectTitle_Slide
DOE Work Proposal for FFRDC, if applicable (see DOE O 412.1A, Attachment 3)	PDF	N/A	LeadOrganization_ProjectTitle_WP
Authorization from cognizant	PDF	N/A	LeadOrganization_ProjectTitle_FFRDCAuth

Contracting Officer for FFRDC, if applicable			
SF LLL Disclosure of Lobbying Activities	PDF	N/A	LeadOrganization_ProjectTitle_SF-LLL
Foreign Entities and Foreign Work, if applicable	PDF	N/A	LeadOrganization_ProjectTitle_Waiver
Data Management Plan, if applicable	MS Word	10	LeadOrganization_ProjectTitle_DMP
Diversity, Equity, and Inclusion (DEI) Implementation Plan	PDF	10	LeadOrganization_ProjectTitle_DEIIP

Technical Volume

The Technical Volume must be submitted in PDF format. 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, EERE will review only the authorized number of pages and disregard any additional pages. Save the Technical Volume in a single PDF file using the following convention for the title “LeadOrganization_ProjectTitle_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, not including the cover page, table of contents, and all citations. Charts, graphs, maps, photos, or other graphics, must be included in the 15-page limit and must also include all the information in the table below. The applicant should consider the weighting of each of the evaluation criteria when preparing the Technical Volume.

The Technical Volume must conform to the following content requirements:

SECTION / PAGE LIMIT	DESCRIPTION
Cover Page Page Limit: 1	The cover page should include the project title, the specific Lab Call Topic Area being addressed, both the technical and business points of contact, names of all team member organizations, and any statements regarding confidentiality.
Project Overview Page Limit: 2	The Project Overview should contain the following information: <ul style="list-style-type: none"> Background: The applicant should discuss the background of their organization, including the history, successes, and current research and development status (i.e., the technical baseline)

	<p>relevant to the technical topic being addressed in the Full Application.</p> <ul style="list-style-type: none"> • Project Goal: The applicant should explicitly identify the targeted improvements to the baseline technology and the critical success factors in achieving that goal. • DOE Impact: The applicant should discuss the impact that DOE funding would have on the proposed project. Applicants should specifically explain how DOE funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives.
<p>Technical Description, Innovation, and Impact Page Limit: 10</p>	<p>The Technical Description should contain the following information:</p> <ul style="list-style-type: none"> • Relevance and Outcomes: The applicant should provide a detailed description of the technology, including the scientific and other principles and objectives that will be pursued during the project. This section should describe the relevance of the proposed project to the goals and objectives of the lab call, including the potential to meet specific DOE technical targets or other relevant performance targets. The applicant should clearly specify the expected outcomes of the project. • Feasibility: The applicant should demonstrate the technical feasibility of the proposed technology and capability of achieving the anticipated performance targets, including a description of previous work done and prior results. • Innovation and Impacts: The applicant should describe the current state-of-the-art in the applicable field, the specific innovation of the proposed technology, the advantages of proposed technology over current and emerging technologies, and the overall impact on advancing the state-of-the-art/technical baseline if the project is successful.
<p>Workplan and Market Transformation Plan Page Limit: 2</p>	<p>The Workplan should include a summary of the Project Objectives, Technical Scope, Work Breakdown Structure (WBS), Milestones, Go/No-Go Decision Points, and Project Schedule. A detailed SOPO is separately requested. The Workplan should contain the following information:</p> <ul style="list-style-type: none"> • Project Objectives: The applicant should provide a clear and concise (high-level) statement of the goals and objectives of the project as well as the expected outcomes. • Technical Scope Summary: The applicant should provide a summary description of the overall work scope and approach to achieve the objective(s). The overall work scope is to be divided by performance periods that are separated by discrete, approximately annual decision points (see below for more information on Go/No-Go decision points). The applicant should describe the specific expected result of each performance period. • WBS and Task Description Summary: The Workplan should describe the work to be accomplished and how the applicant will achieve the milestones, will accomplish the final project goal(s), and will produce all deliverables. The Workplan is to be structured with a hierarchy of performance period (approximately annual), task and subtasks, which is typical of a standard WBS for any

project. The Workplan shall contain a concise description of the specific activities to be conducted over the life of the project. The description shall be a full explanation and disclosure of the project being proposed (i.e., a statement such as “we will then complete a proprietary process” is unacceptable). It is the applicant’s responsibility to prepare an adequately detailed task plan to describe the proposed project and the plan for addressing the objectives of this Lab Call. The summary provided should be consistent with the SOPO. The SOPO will contain a more detailed description of the WBS and tasks.

- Milestone Summary: The applicant should provide a summary of appropriate milestones throughout the project to demonstrate success. A milestone may be either a progress measure (which can be activity based) or a SMART technical milestone. SMART milestones should be Specific, Measurable, Achievable, Relevant, and Timely, and must demonstrate a technical achievement rather than simply completing a task. Unless otherwise specified in the Lab Call, the minimum requirement is that each project must have at least one milestone per quarter for the duration of the project with at least one SMART technical milestone per year (depending on the project, more milestones may be necessary to comprehensively demonstrate progress). The applicant should also provide how the milestone will be verified. The summary provided should be consistent with the Milestone Summary Table in the SOPO.
- Go/No-Go Decision Points: The applicant should provide a summary of project-wide Go/No-Go decision points at appropriate points in the Workplan. A Go/No-Go decision point is a risk management tool and a project management best practice to ensure that, for the current phase or period of performance, technical success is definitively achieved and potential for success in future phases or periods of performance is evaluated, prior to beginning the execution of future phases. At a minimum, each project must have at least one project-wide Go/No-Go decision point for each budget period (12 to 18-month period) of the project. The applicant should also provide the specific technical criteria to be used to evaluate the project at the Go/No-Go decision point. 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.
- End of Project Goal: The applicant should provide a summary of the end of project goal(s). At a minimum, each project must have one SMART end of project goal. The summary provided should be consistent with the SOPO.
- 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.
- Project Management: The applicant should discuss the team’s proposed management plan, including the following:
 - The overall approach to and organization for managing the work.

	<ul style="list-style-type: none"> ○ The roles of each project team member ○ Any critical handoffs/interdependencies among project team members ○ The technical and management aspects of the management plan, including systems and practices, such as financial and project management practices. ○ The approach to project risk management ○ A description of how project changes will be handled. ○ If applicable, the approach to Quality Assurance/Control ○ How communications will be maintained among project team members ● Market Transformation Plan: The applicant should provide a market transformation plan, including the following: <ul style="list-style-type: none"> ○ Identification of target market, competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including a mitigation plan. ○ Identification of a product development and/or service plan, commercialization timeline, financing, product marketing, legal/regulatory considerations including intellectual property, infrastructure requirements, data dissemination, and product distribution.
<p>Technical Qualifications and Resources Page Limit: 1</p>	<p>The Technical Qualifications and Resources should contain the following information:</p> <ul style="list-style-type: none"> ● Describe the project team’s unique qualifications and expertise, including those of key subrecipients. ● Describe the 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. ● This section should also include relevant, previous work efforts, demonstrated innovations, and how these enable the applicant to achieve the project objectives. ● Describe the time commitment of the key team members to support the project. ● Describe the technical services to be provided by DOE/NNSA FFRDCs, if applicable. ● For multi-organizational or multi-investigator projects, describe succinctly: <ul style="list-style-type: none"> ○ The roles and the work to be performed by each PI and Key Participant; ○ Business agreements between the applicant and each PI and Key Participant; ○ How the various efforts will be integrated and managed; ○ Process for making decisions on scientific/technical direction; ○ Publication arrangements; ○ Intellectual Property issues; and ○ Communication plans

Resumes

Applicants are required to submit 1-page resumes for key participating team members. Multi-page resumes are not allowed. Save the resumes in a single PDF file using the following convention for the title “LeadOrganization_ProjectTitle_Resumes”.

Letters of Commitment

Submit letters of commitment from all subrecipient and third-party partners. If applicable, also include any letters of commitment from partners/end users (1-page maximum per letter). Save the letters of commitment in a single PDF file using the following convention for the title “LeadOrganization_ProjectTitle_LOCs”.

Summary/Abstract for Public Release

Applicants are required to submit a single 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. The project summary must not exceed a single page when printed using standard 8.5 x 11 paper with 1” margins (top, bottom, left, and right) with font not smaller than 12-point. Save the Summary for Public Release in a single PDF file using the following convention for the title “LeadOrganization_ProjectTitle_Summary”.

Summary Slide

Applicants are required to provide a single MS PowerPoint slide summarizing the proposed project. This slide is used during the evaluation process.

The Summary Slide template 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.

Save the Summary Slide in a single page MS PowerPoint file using the following convention for the title “LeadOrganization_ProjectTitle_Slide”.

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 WP in accordance with the requirements in DOE Order 412.1A, Work Authorization System, Attachment 3, available at <https://www.directives.doe.gov/directives-documents/400-series/0412.1-BOrder-a-chg1-AdmChg> Save the WP in a single PDF file using the following convention for the title “LeadOrganization_ProjectTitle_WP”.

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 “LeadOrganization_ProjectTitle_FFRDCAuth”.

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 the 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 “LeadOrganization_ProjectTitle_SF LLL”.

Waiver Requests: Foreign Entities and Foreign Work (if applicable)

1. Foreign Entity Participation:

All prime recipients receiving funding under this Lab Call 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 A lists the necessary information that must be included in a request to waive this requirement.

2. Performance of Work in the United States (Foreign Work Waiver)

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 A lists the necessary information that must be included in a foreign work waiver request.

Save the Waivers in a single PDF file using the following convention for the title “LeadOrganization_ProjectTitle_Waiver”.

Data Management Plan

Each proposal under this lab call must have a data management plan (DMP). A DMP explains how, when appropriate, data generated in the course of the proposed work will be shared and preserved to validate the results of the work or how the results could be validated if the data is 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 publications.

A lab may have a previously DOE approved DMP, such as a lab-wide DMP, and to the extent that the DMP applies to the proposal submitted under this lab call, the lab may rely on that DMP to satisfy the DMP requirement of this lab call. If there is no existing DMP that can apply and the applicant fails to submit a DMP as part of the proposal, then the default DMP for the proposal is the following:

For any publication that includes results of the project, the underlying research data will be made available according to the policies of the publishing media. Where no such policy exists, the applicant must indicate on the publication a means for requesting and digitally obtaining the underlying research data. This includes the research data necessary to validate any results, conclusions, charts, figures, images in the publications.

Save the DMP in a single Microsoft Word file using the following convention for the title “LeadOrganization_ProjectTitle_DMP”.

Diversity, Equity, and Inclusion (DEI) Implementation Plan

As part of the application, applicants are required to describe how diversity, equity, and inclusion objectives will be incorporated in the project. Specifically, applicants are required to submit a description of how the project will support or implement the lab-

wide Diversity, Equity, and Inclusion Plan and describe the actions the applicant will take to foster a welcoming and inclusive environment, support people from groups underrepresented in STEM, advance equity, and encourage the inclusion of individuals from these groups in the project; and the extent the project activities will be located in or benefit underserved communities. The plan should include SMART milestones supported by metrics to measure the success of the proposed actions.

The Diversity, Equity, and Inclusion (DEI) Implementation plan should reference the lab DEI plan if available, and contain the following information:

- Equity Impacts: the impacts of the proposed project on underserved communities, including social and environmental impacts.
- Benefits: The overall benefits of the proposed project, if funded, to underserved communities; and
- How diversity, equity, and inclusion objectives will be incorporated in the project.

The following is a non-exhaustive list of actions that can serve as examples of ways the proposed project could incorporate diversity, equity, and inclusion elements. These examples should not be considered either comprehensive or prescriptive. Applicants are encouraged to propose appropriate actions not covered by these examples.

- a. Diversity on the research team
 - i. Include persons from groups underrepresented in STEM as PI, co-PI, and/or other senior personnel;
 - ii. Include persons from groups underrepresented in STEM as student researchers or post-doctoral researchers;
 - iii. Implement evidence-based, diversity-focused education programs (such as implicit bias training for staff) in your organization;
 - iv. Identify Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses and Veteran Owned Businesses to solicit as vendors and sub-contractors for bids on supplies, services and equipment;
 - v. Include faculty or students from Minority Serving Institutions as PI/co-PI, senior personnel, and/or student researchers;
 - vi. Enhance or collaborate with existing diversity programs at your home organization and/or nearby organizations;
 - vii. Collaborate with students, researchers, and staff in Minority Serving Institutions.
- b. Explicit diversity in research impact
 - i. Illustrated outcome impact in underserved communities;
 - ii. Disseminate results of research and development in Minority Serving Institutions or other appropriate institutions serving underserved communities.

- c. Explicit diversity in research design. Inclusion of a broad community, academic, policymaking staff in research design and execution phase.

Save the Diversity, Equity, and Inclusion (DEI) Implementation Plan in a single PDF file using the following convention for the title “LeadOrganization_ProjectTitle_DEIIP”.

Treatment of Application Information

Proprietary Information

In general, DOE will use data and other information contained in proposals only for evaluation purposes, unless such information is generally available to the public or is already the property of the government.

Proposals should not include trade secrets or commercial or financial information that is privileged or confidential unless such information is necessary to convey an understanding of the proposed project or to comply with a requirement in the Lab Call.

Proposals containing confidential, proprietary, or privileged information must be conspicuously marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Federal Government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose.

If a proposal contains confidential, proprietary, or privileged information, it must include a cover sheet marked as follows identifying the specific pages containing confidential, proprietary, or privileged information:

1. Notice of Restriction on Disclosure and Use of Data:

Pages [List Applicable Pages] of this proposal may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for the purposes described in this Lab Call. The government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. In addition, (1) the header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: “Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure” and (2) every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

B. Application Review Details

i. Merit Review and Selection Process

Upon receipt and review for initial compliance with requirements, all proposals received by the deadline will undergo a thorough technical review. GTO will use expert

reviewers familiar with the GTO portfolio, goals, and objectives. GTO will collect and collate review scores and comments for use in making final project selections. The GTO Selection Official will consider the merit review results to make the final project selections. For transparency, GTO will provide summaries of the review results to assist labs in understanding how their submission reviewed and aid in improving future work.

ii. Technical Review Criteria

Full Applications

Applications will be evaluated against the merit review criteria shown below:

Criterion 1: Technical Merit, Innovation, and Impact (50%)

This criterion involves consideration of the following factors:

Technical Merit and Innovation

- Extent to which the proposed technology or process is innovative;
- Degree to which the current state of the technology and the proposed advancement are clearly described;
- Extent to which the application specifically and convincingly demonstrates how the applicant will move the state-of-the-art to the proposed advancement; and
- Sufficiency of technical detail in the application to assess whether the proposed work is scientifically meritorious and revolutionary, including relevant data, calculations, and discussion of prior work in the literature with analyses that support the viability of the proposed work.

Impact of Technology Advancement

- How the project supports the topic area objectives and target specifications and metrics; and
- The potential impact of the project on advancing the state-of-the-art.

Criterion 2: Project Research and Market Transformation Plan (25%)

This criterion involves consideration of the following factors:

Research Approach, and Workplan and SOPC

- Degree to which the approach and critical path have been clearly described and thoughtfully considered; and
- Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPC will succeed in meeting the project goals.

Identification of Technical Risks

- Discussion and demonstrated understanding of the key technical risk areas involved in the proposed work and the quality of the mitigation strategies to address them.

Baseline, Metrics, and Deliverables

- The level of clarity in the definition of the baseline, metrics, and milestones; and
- Relative to a clearly defined experimental baseline, the strength of the quantifiable metrics, milestones, and a mid-point deliverables defined in the application, such that meaningful interim progress will be made.

Market Transformation Plan

- Identification of target market, competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including mitigation plan; and
- Comprehensiveness of market transformation plan including but not limited to product development and/or service plan, commercialization timeline, financing, product marketing, legal/regulatory considerations including intellectual property, infrastructure requirements, and product distribution.

Criterion 3: Team and Resources (15%)

This criterion involves consideration of the following factors:

- The capability of the Principal Investigator(s) and the proposed team to address all aspects of the proposed work with a high probability of success. The qualifications, relevant expertise, and time commitment of the individuals on the team;
- The sufficiency of the facilities to support the work;
- The degree to which the proposed consortia/team demonstrates the ability to facilitate and expedite further development and commercial deployment of the proposed technologies;
- The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan; and
- The reasonableness of the budget and spend plan for the proposed project and objectives.

Criterion 4: Diversity, Equity, and Inclusion (10%)

This criterion involves consideration of the following factors:

- The quality and manner in which the measures incorporate diversity, equity, and inclusion goals in the project; and
- Extent to which the project benefits underserved communities.

iii. Selection for Award Negotiation

GTO carefully considers all the information obtained through the proposal process and makes an independent assessment of each compliant and responsive proposal based on the criteria set forth in this Lab Call. GTO may select or not select a proposal for negotiations. GTO may also postpone a final selection determination on one or more

proposals until a later date, subject to availability of funds and other factors. GTO will notify applicants if they are, or are not, selected for award negotiation.

iv. Selection Notification

GTO anticipates completing the project selection process and notifying labs of selections in July 2024 (**subject to change**).

GTO will notify lab leads of selection results from GeoCriticalMinerals@ee.doe.gov and will provide lab leads with summaries of anonymized review comments for each proposal submitted.

v. Questions and Agency Contacts

Specific questions about this lab call should be submitted via e-mail to GeoCriticalMinerals@ee.doe.gov . To ensure fairness across all labs, individual GTO staff cannot answer questions while the lab call remains open.

Appendix A: Waiver Requests and Approval Processes:

1. Foreign Entity Participation as the Prime Recipient; and

2. Performance of Work in the United States (Foreign Work Waiver)

1. Waiver for Foreign Entity Participation as the Prime Recipient

All prime recipients receiving funding under this Lab Call must be incorporated (or otherwise formed) under the laws of a state or territory of the United States and have a physical location for business operations in 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 Lab Call 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 and the extent, if any, the entity is state owned or controlled.
 - 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 (Foreign Work Waiver)

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. 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 Lab Call 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 U.S. economy.
- 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 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.