September 12, 2016

Dear Emerging Energy Technology Fund applicants and interested parties:

The Alaska Energy Authority (AEA) is pleased to announce a third request for applications (RFA) to the Emerging Energy Technology Fund (EETF). The EETF exists to promote the expansion of energy sources available to Alaskans. The EETF uses primarily state and federal funds for demonstration projects of technologies that have a reasonable expectation to be commercially viable within five years and that are designed to test emerging energy technologies or methods of conserving energy, improve an existing energy technology, or deploy an existing technology that has not previously been demonstrated in the state. Towards this end, the final deliverables for all projects will include data, analysis, and reports that demonstrate the viability of the technology in question for Alaska.

This solicitation is open to all eligible technology types, however; AEA, in consultation with the EETF Advisory Committee, has established that certain types of potential projects will receive priority consideration under this RFA as allowed under 3 AAC 107.705. AEA recognizes that most, if not all, electrical grids in Alaska can be classified as microgrids, that many of these electrical grids are islanded systems, and that many of these microgrids are situated at, or adjacent to, economically viable renewable energy resources. AEA also recognizes that many energy projects in Alaska have increased the resiliency, reliability, efficiency, and renewable energy penetration levels of microgrids to the economic and technical limits of commercially available technologies and system architectures, and that further increases could substantially lower energy costs in the state.

Accordingly, for this RFA, priority consideration will be given to project types involving microgrid or microgrid enabling technologies. For this RFA:

- Microgrid technologies improve the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of microgrids.
- Microgrid enabling technologies allow a microgrid to be established within an electrical grid to increase the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of the grid, particularly during periods of grid failure.

Recognizing current fiscal realities in Alaska, it is the intention of AEA to maximize the use of awarded federal funding and grantee match to leverage the most public benefit per state dollar as possible. AEA expects the applicants to be at least as invested in the proposed project as the state and that the third round of EETF projects provide an immediate benefit to Alaska. As such, the scoring of applications will be weighted heavily for 1) the feasibility/viability of the proposed technology and project for Alaska, 2) the priority consideration outlined above, and 3) the amount of funds contributed by the applicant as financial match. As detailed in the RFA, strict, minimal technical scores will be enforced.

813 West Northern Lights Boulevard Anchorage, Alaska 99503 T 907.771.3000 Toll Free (Alaska Only) 888.300.8534 F 907.771.3044

The U.S. Department of Energy (DOE) has contributed $250,000 to the EETF through an Emerging Microgrid Technology Solicitation (EMTS) grant, awarded to AEA for administration as a part of the EETF. AEA will provide the required one to one match of federal funds. Round 1 and 2 EETF projects have returned approximately $800,000 to the fund which constitutes the state funding. However, AEA will be seeking to award the smallest sum of state funds possible to provide the required match to DOE funds and to support a project or projects that help Alaska achieve a breakthrough in microgrid technologies that will break down the barriers to immediate benefit to Alaska's microgrids and the residents they serve. Significant applicant match will increase the total project budget and the applicant's chance of receiving a grant.

To reduce cost and increase efficiency, AEA prefers electronic submissions of applications. Bound applications will be accepted if electronic submission is not possible. For any questions regarding the RFA, application, or EETF please contact the AEA Grants Administrator, Shawn Calfa. (907-771-3031, scalfa@aidea.org)

We appreciate the work of the EETF Advisory Committee and look forward to reviewing your applications.

Sincerely,

Michael Lamb
Executive Director

IMPORTANT NOTICE

Requests for Grant Applications (RFA) AEA-2016-091

for

Emerging Energy Technology Fund Grant Program

RFA ISSUE DATE: September 12, 2016

Register to Receive Notification:
Interested applicants who want to be notified of updates or changes to this RFA MUST sign up to receive electronic mail notices regarding the Emerging Energy Technology Grant Program. Directions:

(1) Click on the link to the State of Alaska List Server (State of Alaska List Server);
(2) scroll down until you find EmergingEnergyFund;
(3) click 'Join'; and
(4) follow the instructions.

Public Records Notice to Applicants:

An abstract, full proposal, and other materials submitted to the Authority under the Emerging Energy Technology Grant Program are records subject to Alaska Public Records Act, and may be disclosed to the public unless the records are confidential or otherwise protected from disclosure under AS 40.25.120 or other applicable law. An applicant may request confidentiality as described in Section 1.16 of this RFA.

Contact: Questions about this RFA and the application process should be directed to**:**

Grants Administrator Shawn Calfa
Alaska Energy Authority
Phone: (907) 771-3031
E-mail: scalfa@aidea.org

Submit Completed Applications by email to:

eetf@aidea.org

If unable to submit by email, mail to:

Alaska Energy Authority
Emerging Energy Technology Grant Application AEA-2016-091
813 West Northern Lights Blvd
Anchorage, AK 99503

Applications are due by 5PM Alaska Time on October 10, 2016.

Table of Contents

1. Introduction and Instructions

1.1 Purpose

The Alaska Energy Authority ("AEA" or "Authority") is soliciting competitive applications from qualified applicants for grants from the Emerging Energy Technology Fund ("EETF"). Applications will be accepted and evaluated in accordance with Alaska Statutes AS 42.45.375, and regulations 3 AAC 107.700 - 3AAC 107.799 and this Request for Applications (RFA).

1.2 Introduction

The goal of the EETF program is to promote the expansion of reliable and affordable energy sources available to Alaskans. In order to achieve this goal, the EETF program strives for:

- Clear, rigorous application and review processes.
- Constructive oversight of projects in order to ensure that the technologies work as advertised, both technically and economically.
- Carefully planned and well-documented data collection and analysis of technology performance.

The Authority addresses EETF grant applications using a two-step process:

- Step 1: Proposal Abstracts
- Step 2: Full Applications

This RFA sets out the purpose, application instructions, requirements, evaluative criteria, and other information regarding EETF grant funding.

1.3 Government Roles and Responsibilities

The EETF is established by statute in AS 42.45.375 (the "EETF Statutes"). The Authority administers the EETF program, solicits applications for grants, and awards and administers grants for projects.

The AEA EETF Program Manager is responsible for developing, coordinating, and facilitating the EETF grant evaluation and selection process.

The AEA Grant Manager is responsible for accepting applications, assessing the eligibility of all applications, and developing the list of grant projects to be funded.

An AEA Project Manager will be assigned to each project selected for grant funding. Tasks and level of Authority project management will vary by project, and will be established in the project management plan developed under the grant agreement. At a minimum, the AEA Project Manager will review reports and billings, and track progress of the grant project.

A seven-member Advisory Committee, appointed by the governor, advises the Authority on the scoring, rejection, and selection of abstracts and full applications. In conducting merit review evaluations, the Authority may also seek the advice of qualified personnel who are not members of the Advisory Committee.

The Authority may conduct an independent third party review of financial capability of applicants selected for negotiation of an award. The Authority may hire a neutral party to provide independent performance review of the projects.

1.4 Eligible Applicants

To be eligible for a grant recommendation, an applicant must, at the time of submitting an abstract, be one of the following types of entities and submit documentation confirming its status as one of the following:

1. An electric utility holding a certificate of public convenience and necessity under AS 42.05;
2. An independent power producer as defined under 3 AAC 107.695 (a) (1);

   "'independent power producer' means a corporation, person, agency, authority, or other legal entity or instrumentality, that is not an electric utility and that owns or operates a facility for the generation or production of energy entirely for use by the residents of one or more municipalities or unincorporated communities recognized by the Department of Commerce, Community, and Economic Development for community revenue sharing under AS 29.60.850 - 29.60.879 and 3 AAC 180."
3. A local government, a quasi-governmental entity, or other governmental entity including a tribal council or housing authority;
4. A business holding an Alaska business license; or
5. A nonprofit organization.

Applications whose applicants do not meet these requirements will be rejected without further evaluation.

1.5 Eligible Projects

The Authority may make grants for demonstration projects of technologies that have a reasonable expectation of being commercial in five years and that are designed to:

1. Test emerging energy technologies or methods of conserving energy;
2. Improve an existing energy technology; or
3. Deploy an existing technology that has not previously been demonstrated in the state.

"Energy technology" means technology that promotes, enhances, or expands the diversity of available energy supply sources or means of transmission, increases energy efficiency, or reduces negative energy-related environmental effects; "energy technology" includes technology related to renewable sources of energy, conservation of energy, enabling technologies, efficient and effective use of hydrocarbons, and integrated energy systems.

1.6 Prioritization

1.6.1 Statutory Priority Considerations

Under AS 42.45.375, the Authority, in consultation with the Advisory Committee, in making EETF grants shall give priority to:

1. Alaska residents, associations, organizations, or institutions;
2. Projects that demonstrate partnership with the University of Alaska or another Alaska post-secondary institution;
3. Projects supported by matching funds or in-kind partnerships; and
4. Projects with potential for widespread deployment in the state.

See Section 3.1.3 for a complete description of the scoring criteria for the priority considerations.

1.6.2 Priority for Project Types Involving Microgrid or Microgrid Enabling Technologies

The Authority, in consultation with the Advisory Committee, has established that certain types of potential projects will receive priority consideration under this RFA as allowed under 3 AAC 107.705. AEA recognizes that most, if not all, electrical grids in Alaska can be classified as microgrids, that many of these electrical grids are islanded systems, and that many of these microgrids are situated at, or adjacent to, economically viable renewable energy resources. AEA also recognizes that many energy projects in Alaska have increased the resiliency, reliability, efficiency, and renewable energy penetration levels of microgrids to the economic and technical limits of commercially available technologies and system architectures, and that further increases could substantially lower energy costs in the state.

Accordingly, and in consultation with the advisory committee, for this RFA, priority consideration will be given to project types involving microgrid or microgrid enabling technologies.

For this RFA:

- Microgrid technologies improve the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of microgrids.
- Microgrid enabling technology projects allow a microgrid to be established within an electrical grid to increase the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of the grid, particularly during periods of grid failure.

See Section 3.1.3 for a description of the scoring criteria of these priority considerations.

1.7 Modifications to the RFA

Applicants may submit written requests for modifications to this RFA to the Grant Manager no later than September 16, 2016. Please be advised that the Authority cannot modify requirements of applicable statutes or regulations as those relate to the solicitation.

Acceptance or denial of the request is solely in the discretion of the Authority. Failure of the Grant Manager to issue a written modification within 10 days from submittal of request shall be considered a denial of the request.

Modifications to this RFA may be issued at any time prior to the deadline for receipt of applications at the Authority's option. If modifications are issued within 10 days of the deadline for applications, the application deadline may be extended to allow time for applicants to respond to any changes. All modifications to this RFA will be in writing and posted to the program website at http://akenergyauthority.com/Programs/EETF1 and the Authority will provide e-mail notice to those registered to receive electronic mail notices as described on the cover page of this RFA.

1.8 Grant Funding Availability and Restrictions

It is anticipated that approximately $800,000 in funds returned from EETF Round 1 and Round 2 projects will constitute the majority of funding available to fund Round 3 projects. These funds originated with the State of Alaska and Denali Commission with the majority of the returned funds originating from the former.

The Department of Energy (DOE) has contributed $250,000 to the EETF through an Emerging Microgrid Technology Solicitation (EMTS) grant, awarded to AEA that will be administered as a part of the EETF. EMTS funding requires a $250,000 match from the State, Grantee, or combination thereof. As such, EMTS funds are subject to all the statutes and regulations pertaining to the EETF and will be available only to EETF Microgrid or Microgrid Enabling Technology projects, as defined in Section 1.6.2 and are subject to 2 CFR 200.315 and 37 CFR 401.14 regarding Intangible Property and Standard Patent Rights Clauses, attached as Appendix A. Only

applicants that complete a DOE Environmental Questionnaire (EQ), (NETL F 451.1-1/3 – attached as appendix B) as part of their application will be eligible for EMTS funds. Per Section 1.9, the Authority will review the requirements of an award with an applicant prior to the execution of a grant agreement.

Other funding sources may be added prior to the execution of EETF Round 3 grants that may carry requirements beyond those established in the EETF Regulations and Statutes and this RFA. Per Section 1.9, the Authority will discuss requirements of an award with an applicant prior to execution of a grant agreement.

All funding amounts set forth herein are estimates only and subject to change. All EETF and EMTS funds may not be awarded. AEA is targeting projects with total state and federal government investment of $500,000 - half from the DOE and half from the AEA. Applicant match will increase total project budget.

1.9 Project Scope Reduction and Phasing

The Authority may limit or delay funding for projects, and may require the applicant to limit the project scope and/or phasing. Prior to making a final grant award, the Authority may require changes to the proposed project for any reason deemed desirable including but not limited to: (1) the budget is not appropriate or reasonable for the requirements; (2) only a portion of the application is selected for award; and/or (3) special terms or conditions are required. Failure to resolve such issues identified by the Authority will preclude award to the applicant and other applicants may be selected for funding.

1.10 Data Collection

Prior to making a final grant award, the state will enter into discussion with selected applicants to negotiate an agreement for collection and analysis of data generated by the project. The Authority may enter into an agreement with a third party to assist in developing and implementing a data collection and analysis plan for each project. Elements of the plan will include, at minimum:

1. Identification of key data points for collection and analysis
2. Overview of instrumentation that will be used to collect the data
3. Agreements for access to the project instrumentation
4. Plan for accessing/transmitting identified project data

The negotiated data collection plan will be incorporated into the grant agreement. Failure to agree on a data collection plan will preclude award to the applicant.

1.10 Grantee Reimbursement

Reimbursement to grantees under this program is on a cost-reimbursable basis. In accordance with the terms of the grant, a grantee is required to submit requests for reimbursements that document expenditures and demonstrate meeting milestones identified in the grant agreement.

Proposed milestones and reimbursement schedule should be identified in the applicant's full proposal. The final reimbursement schedule is subject to negotiation and will be incorporated into the final grant agreement.

The Authority may authorize advance payments under certain circumstances; however, the grantee will still be obligated to document all expenditures of grant and matching funds including any advance payment in subsequent requests for reimbursement.

The Authority may withhold a percentage of the total grant subject to completion of the project and submission of final reports and other required documentation.

1.11 Pre-Award Obligations and Reimbursement

After receiving notification of an award, a selected applicant may proceed with work on the project prior to the existence of a signed grant agreement provided:

- They do so at their own risk as there is no guarantee projects will be funded or funded at the level requested in their application.
- They must have sufficient funds from sources other than this program to meet their project commitments prior to grant award.
- **No work performed or obligations incurred prior to the award notification date will be considered for reimbursement.**

1.12 Project Match

When reviewing applications, AS 42.45.375 provides the Authority shall prioritize applications that commit the applicant to provide matching contributions. There is no match requirement under this RFA, however, match will be used to score and rank projects during abstract and full application review, and is highly recommended.

A match amount may be contributed to the project by the applicant itself, or by one or more third-party sources whose match contributions have been arranged by the applicant. Applicants should clearly identify the amount and source of match contributions, and also clearly specify whether each contribution amount will be cash, other funds, or other property.

The match component of the budget outlined in Step 1 (as defined in Section 1.2) must equal the final proposed match in Step 2. Substantive deviations in match between Step 1 and Step 2 may result in the application being rejected.

Cash or in-kind matching contributions are both eligible. However, absent extraordinary circumstances, land or other real property cannot be used to satisfy matching contribution.

If an application includes labor or equipment as part of a matching contribution, then the applicant must clearly state the proposed labor rates and/or equipment value, and those rates and values are subject to review and approval by the Authority.

The proposed matching funds for an EETF project cannot have been used to match a previous State of Alaska grant or pending grant request.

In order for funds or in-kind contributions to be considered as a matching amount, the amount and source of funds or in-kind contributions must be verified to the Authority by the applicant in the Step 2 review application. At a minimum, the applicant will provide in its Step 2 application a binding resolution to provide the matching contributions. **Failure to provide this verification of matching funds or in-kind contributions in the Step 2 application as listed in the Step 1 abstract application will result in the Authority's rejection of the application in the Step 2 review.**

Successful applications will be required to document the match contribution amounts in the grant award and in the reimbursement requests submitted to the Authority for review and approval.

Applicants should note that if matching funds are pledged and budgeted in the grant agreement but later not provided during the grant project, the grant amount will be reduced proportionally.

1.13 Application Preparation Expenses

The Authority **will not** pay for any expenses incurred by any applicants in preparing and submitting grant applications. No expense incurred by an applicant in the preparation of an application may be charged or reimbursed as an expense of performing the Grant. Without limiting the preceding sentence, there will be no reimbursement under a grant for any applicant's due diligence, investigations, discussions or negotiations with the Authority or any other entity, or other activities associated with applicant's preparation of one or more grant applications.

The only reimbursable costs will be those allowed in the grant agreement signed by the Authority.

1.14 Authorized Signature

Applications must be signed by an individual authorized to bind the Applicant to its provisions

and to make the commitments of the application.

1.15 Correction, Modification or Withdrawal of Applications

An application may be corrected, modified or withdrawn by providing a written request from an authorized representative of the Applicant to the grant manager before the time and date set for receipt of the applications.

After applications are opened, modifications may be allowed prior to completion of the evaluation process if the Authority determines that it is in the best interest of the program to allow modifications.

Applicants who may be selected for grant awards may be requested to clarify, modify, or correct their application prior to award of a grant if the Authority determines that it is in the best interest of the program.

Applicants who fail to respond to requests for clarifications, modifications, or corrections within the period specified in the request may have their application rejected.

The Authority may waive minor requirements of the RFA that do not result in a material change in the requirements of the RFA and do not give an applicant an unfair competitive advantage.

1.16 Confidentiality of Materials Submitted to the Authority

An abstract, full proposal, and other materials submitted to the Authority under AS 42.45.357 and 3 AAC 107.700 – 3 AAC 107.799 are records subject to AS 40.25.100 – 40.25.295 (Alaska Public Records Act) and 2 AAC 96, and may be disclosed to the public unless the records are confidential or otherwise protected from disclosure under AS 40.25.120 or other applicable law.

A person submitting an abstract, full proposal, or other materials submitted to the Authority under AS 42.45.357 and 3 AAC 107.700 – 3 AAC 107.799 may request that certain information be kept confidential. If an applicant wishes to make a request for confidentiality for any part of its application, then the applicant is responsible for separating its application into two parts, kept separate by staples or other physical fastener:

1. Non-confidential material that the applicant agrees can be posted by AEA onto its publicly-accessible internet site which includes a non-confidential overview of the confidential information that has been submitted separately.
2. Materials that the applicant considers confidential.

These two separate categories of materials must be clearly labeled by the applicant, with a cover page or similar obvious labeling and a header that indicates that the section is either “Confidential” or “Non-Confidential”.

With the sole exception of application sections which AEA agrees can be kept confidential, all abstracts received will be posted on the Authority’s web site.

Under 3 AAC 107.770, if the Authority determines the records submitted do not appear to be confidential or otherwise protected from disclosure under AS 40.25.100 – 40.25.295 (Alaska Public Records Act), the Authority will notify the applicant so that the applicant may request to withdraw all or parts of the abstract or full proposal. If the Authority agrees that records received from a grantee appear to be confidential or otherwise protected from disclosure under AS 40.25.100 – 40.25.295 (Alaska Public Records Act), the Authority will agree in the grant agreement to notify the applicant if the Authority receives a public records request so that the applicant may seek judicial relief or take other action necessary to protect the records from disclosure.

The Department of Energy (DOE) has contributed $250,000 to the EETF through an Emerging Microgrid Technology Solicitation (EMTS) grant, awarded to AEA, that will be administered as a part of the EETF. As such, EMTS funds are subject to all the statutes and regulations pertaining to the EETF and will be available only to EETF Microgrid or Microgrid Enabling Technology projects, as defined in Section 1.6.2 and are subject to 2 CFR 200.315 and 37 CFR 401.14 regarding Intangible Property and Standard Patent Rights Clauses, attached as Appendix A.

Additional considerations or requirements regarding confidentiality, patents, intellectual property, etc. may be required for EETF projects receiving EMTS or other funding. These considerations or requirements will be discussed with applicants prior to the negotiation of a grant agreement.

2. Instructions and Requirements for Submitting an Abstract

2.1 Formatting Requirements

Applications should have a minimum font size of 11 point, single spacing, all margins a minimum of 0.75", paper size 8.5"x11", and submitted in portable document format (PDF) or other word searchable document electronic format. If unable to submit by email, submitted pages must be bound in a low-profile method (i.e. no 3- ring binders). Additionally, each page should be numbered in the footer, and the header should include the project title and applicant name. The format of the application should follow the sequence outlined below in Section 2.2.

2.2 Abstract Application Structure and Requirements

The project application is limited to a maximum of four pages, not including a cover page and proof of eligibility. The abstracts should include sufficient detail to enable reviewers to assign scores to the 11 technical criteria identified in Section 3.1.2. It is strongly recommended that abstracts be written with these criteria in mind; insufficient detail may result in a lower score. In order to be evaluated, the application must include the following information:

Cover Page (not part of page limit)

1. Project title (eight words or fewer)
2. Applicant contact information (email, phone, and mailing address)
3. Project partners
4. Total project cost; Grant funds requested; Match committed (Section 1.12)
5. Previous project/application title(s) and/or number(s) for grants from the Renewable Energy Fund, Emerging Energy Technology Fund, or Denali Commission Emerging Energy Technology Grant program

Abstract (maximum of four pages)

1. Project Summary
    a. **Project Description**: Provide a description of the technology and proposed project, including a description of how the proposed project will test emerging technologies, test methods of conserving energy, improve an existing energy technology, or use an existing technology that has not been previously demonstrated in the state. Be sure to clearly convey the current state of development of the technology, the current and anticipated Technology Readiness Level (use the table in Section 5.4 for guidance and explain how the proposed technology fits the description), the feasibility of the proposed technology, and the potential benefits of the technology if deployed in the state.
    b. **Project Innovation**: Describe how the project will increase performance (output or range of conditions), reliability, decrease capital or operating costs, increase lifespan, etc. in Alaska. Include technical and scientific explanations as needed.
    c. **Project Site and Demonstration Environment**: Provide a description of the proposed project site and its suitability for a demonstration project. Indicate how well the demonstration environment represents the environment at anticipated commercial deployment sites. Also describe how the applicant will retain site control for the duration of the project as required in 3 AAC 107.710.
    d. **Priority**: If applicable, describe how the proposed project addresses the priority considerations established by AS 42.45.375(d) and this RFA (Section 1.6).

2. Technology Validation and Data Collection

    a. **Objectives**: Explain the key performance metrics that will be measured and what specific results would constitute a successful project.

    b. **Data Collection**: Provide a description of how the project will monitor and collect technical and economic data for analysis. The cost of all instrumentation and data collection should be included in the project budget.

3. Project Schedule and Project Budget

    Provide a project schedule -including proposed go/no-go milestones- and a budget of the estimated project costs. The project budget should include all instrumentation costs needed for validation of the performance of the technology. Be sure to include all funding sources and match components of the project as outlined in Section 1.12 of this RFA.

4. Project Team Qualifications

    Briefly outline the project team and their respective responsibilities, and describe the qualifications of the project team.

5. Discussion of Commercialization of Funded Technology

    Provide a description of how the proposed project will advance the commercialization of the energy technology within the next five years and the potential commercial market for the proposed technology or energy from the proposed technology.

6. Signed Applicant Certification (Section 1.14)

    Please copy the following paragraph at the end of your application and provide a signature from a member of the applicant organization that has signatory authority:

    "By signature on this application, I certify that we will comply with the amount of matching funds being offered."

Proof of Eligibility (not part of page limit)

Provide proof of eligibility: Alaska business license, nonprofit certification, etc. (Section 1.4).

Department of Energy Environmental Questionnaire (DOE EQ) (Form 451_1-1-3_1) (not part of page limit)

Applicants must complete the DOE EQ to be eligible to receive EMTS funds through the EETF. The DOE EQ is provided as Appendix B to the RFA and can be downloaded from https://www.netl.doe.gov/File%20Library/Business/forms/451_1-1-3.pdf and filled out electronically.

2.3 Filing an Application

Applicants must submit an electronic version of their application in PDF or other word searchable document electronic format one to eetf@aidea.org. If unable to submit electronically applicants must submit an electronic version of their application on CD or USB storage device along with (1) hard copy of their complete application, including appendices that can be duplicated, in a sealed envelope(s) clearly labeled:

From: Applicant's Return Address

To: Alaska Energy Authority
AEA Emerging Energy Technology Grant Application AEA-2016-091
813 West Northern Lights Blvd
Anchorage, AK 99503
Phone: 907-771-3000

Staff will confirm receipt within two business days by responding to the email address provided on the application cover page.

2.4 Application Deadline

All applications must be received by the Authority no later than 5:00 pm Alaska Time October 10, 2016.

The Applicant is solely responsible for complete and timely submission of its application. The Authority accepts no responsibility for submission of applications or for applications that are received after the application deadline, whether because they were misdirected, delayed, or erroneously addressed or for any other reason.

Failure to meet the deadline will result in the application being rejected.

3. Overview of the Evaluation Process

The EETF project selection will be completed through a two-step process. In Step 1, any prospective applicant may send in a project abstract for review. Selected projects will then be asked to submit a full proposal for a second review (Step 2), after which final project selections will be made.

Only those projects selected from the Step 1 review will be eligible to submit a full proposal to the Step 2 review.

3.1 Step 1 Review

The abstract evaluation process (Step 1) consists of three distinct components:

1. Eligibility Review
2. Technical Review
3. Prioritization and Ranking

During the eligibility review, proposals will be screened for project and applicant eligibility. Eligible proposals will then undergo a technical review during which they will be evaluated and scored on their technical merits. Proposals may be rejected during the technical review. Abstracts that pass the technical review will then be further evaluated and scored on a set of priority considerations to assist in final ranking -based on combined technical and priority scores- and selection for a Step 2 review.

At any stage in the review process the Authority may request clarifying information by email at the address provided on the front page of the application and the applicant will have a specified amount of time, but no more than five (5) business days, to respond to the request for information. Failure to respond timely or provide adequate information will result in the application being rejected.

3.1.1 Abstract Eligibility Review

All abstracts received by the deadline will be initially reviewed by Authority staff to assess if the abstract is complete, meets the minimum submission requirements, and has adequate information. The following pass-fail criteria will be used to determine if the abstract meets the minimum requirements:

Application must meet all of these criteria to be considered further.	
1.	The abstract is submitted by an Eligible Applicant (Section 1.4).
2.	The project meets the definition of an Eligible Project (Section 1.5).
3.	A signed Applicant Certification for the amount of match being offered that meets the minimum match requirements (Section 1.12).
4.	The abstract provides a detailed description of the items required under 3 AAC 107.735(2) (Section 2.2).
5.	The abstract is complete in that the information provided is sufficiently responsive to the RFA to allow AEA to consider the abstract in the next stage of evaluation.
6.	An Environmental Questionnaire is submitted by an applicant seeking EMTS funding.

The Authority will reject abstracts that fail to meet these requirements. The Authority will provide written notice to the application of the rejection. The notice may be given by electronic mail. The Authority will also review the match component of the project budget, per the instructions and restrictions outlined in Section 1.12, and may reject applications with questionable or ambiguous match. If an abstract is ambiguous regarding questions 1-5 or the match component is ambiguous, the Authority may request clarifying information and the applicant will have a specified amount of time to provide the requested information. Failure to respond timely or provide an adequate explanation may result in the Authority rejecting the proposal due to being unable to complete the review of the abstract proposal.

3.1.2 Abstract Technical Evaluation

All abstracts determined to be eligible in the eligibility review will be reviewed by AEA staff. The Technical Evaluation will count for 70% of the total Abstract score. The Authority, in consultation with the Advisory Committee, will evaluate and rank abstracts on the following 11 criteria identified in 3 AAC 107.745 and each criterion will count towards the indicated percentage of the Technical Evaluation Score:

	Criteria identified in 3 AAC 107.745	Criteria Weight
1	Feasibility of the proposed technology;	20%
2	Innovation and quality of the technical explanations submitted;	10%
3	How well the proposed project will demonstrate emerging energy technologies, test methods of conserving energy, improve an existing energy technology, or deploy an existing technology that has not previously been demonstrated in the state;	15%
4	Whether the proposed schedule is realistic;	5%
5	Whether the energy technology can be beneficial when deployed in the state;	15%
6	How suitable the proposed project site is;	5%
7	Extent to which existing research and development demonstrates the energy technology and the systems and components included are likely to successfully work in the proposed location and environment in the state;	5%
8	Extent to which to which the proposed project will advance the commercialization of the energy technology no later than the next five years;	5%
9	Capabilities of the project team;	10%
10	Potential commercial market for the proposed technology or energy from the proposed technology;	5%
11	An evaluation of the finance plan and budget for the proposed project.	5%

The maximum Technical Evaluation score will be 70. For each of the 11 criteria, abstracts will be scored on a scale from 0-10, with 10 being the maximum possible score. The Authority will reject abstracts during the technical review portion of the evaluation if:

- Any of the 11 criteria receives a score of 0. If this is the case, AEA will review the rationale for the score of 0 with the EETFAC and provide an explanation for the basis of the rejection to the applicant.
- The cumulative score for the 11 criteria does not meet the minimum score threshold of 42.

Abstracts that are not rejected during the technical review will then be scored under Section 3.1.3 of this RFA.

3.1.3 Abstract Prioritization and Ranking

The Authority, in consultation with the Advisory Committee, will evaluate and rank abstracts not rejected during the technical evaluation on the 4 priority considerations identified in the program statute, AS 42.45.375, and the priority considerations established for this RFA as described in Section 1.6. The Prioritization Score will count for 30% of the total Abstract score and each criteria will count towards the indicated percentage of the Prioritization Score:

	Priority Criteria Identified in AS 42.45.375 and the RFA	Criteria Weight
1	Alaska residents, associations, organizations, or institutions	10%
2	Partnership with the University of Alaska or another Alaska post-secondary institution	10%
3	Support by matching funds or in-kind partnerships	30%
4	Potential for widespread deployment in the state	10%
5	RFA Priority Considerations: 1. Microgrid Technology projects improve the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of microgrids. 2. Microgrid Enabling Technology projects allow a microgrid to be established within an electrical grid to increase the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of the grid, particularly during periods of grid failure.	40%
	Must equal 100% -->	100%

The maximum Prioritization Score will be 30. Priority considerations will be scored on a scale from 0 to 10, with 10 being the maximum score, according to the following guidelines:

Alaska residents, associations, organizations, or institutions

10 Project team entirely composed of Alaska entities, including project lead
8 Project team primarily composed of Alaska entities, including project lead
3 Project team contains integral involvement of Alaska entities
0 No or peripheral involvement of Alaska entities

Partnership with the University of Alaska or another Alaska post-secondary institution[1]

10 Strong, productive partnership with an Alaska University or post-secondary institution
5 Peripheral but productive partnership demonstrated with an Alaska University or post-secondary institution
0 No involvement or marginal or unproductive involvement of Alaska University or post-secondary institution.

Matching funds or in-kind contributions (the highest applicable score)

10 100% of grant
9 >90% of grant
8 >80% of grant
7 >70% of grant
6 >60% of grant
5 >50% of grant
4 >40% of grant
3 >30% of grant
2 >20% of grant
1 >10% of grant
0 <=10% of grant

Potential for widespread deployment in Alaska

[1] AEA will consider a partnership productive if it increases the chances of a successful demonstration of the technology and makes efficient use of grant funding.

10 Clear potential for immediate widespread commercial deployment in Alaska
8 High potential for widespread commercial deployment in Alaska in the near-term
6 Moderate potential for widespread commercial deployment in Alaska in the near-term
4 Somewhat limited potential for widespread commercial deployment in Alaska in the near-term
2 Limited potential for widespread commercial deployment in Alaska in the near-term
0 Extremely limited potential for widespread commercial deployment in Alaska

Projects involving Microgrid or Microgrid Enabling Technologies

10 Project centers on Microgrid or Microgrid Enabling Technologies
7 A major project component directly involves Microgrid or Microgrid Enabling Technologies
3 A minor project component directly involves Microgrid or Microgrid Enabling Technologies
0 Project does not directly involve Microgrid or Microgrid Enabling Technologies

All proposals not rejected during the eligibility or technical review processes will be ranked according to the combined scores from the Technical and Prioritization Evaluations, with a maximum possible score of 100. The Authority will ask the Advisory Committee to recommend the number of projects to advance to the Step 2 review; to limit the number of full proposals to be scored by the Advisory Committee, the Authority anticipates it will limit the number of projects eligible for Step 2 review to approximately 200% of the total grant funds available.

The Authority may reject a proposal based upon the review under this section, AS 42.45.375 and 3 AAC 107.700 – 107.799. The Authority will provide written notice to the applicant of the rejection. The notice may be given by electronic mail.

A sample Abstract Technical and Prioritization Evaluation Scoring sheet is attached in Appendix C.

3.2 Step 2 Review Summary

The following provides a summary of the Step 2 review process. Detailed application requirements, process, and review criteria for the Step 2 review can be found in 3 AAC 107.750 – 3 ACC 107.760. If eligible for a Step 2 review, the applicant will receive a detailed application packet outlining this information and other EETF grant information.

The Authority, in consultation with the Advisory Committee, will evaluate and rank full proposals on the 14 criteria identified in the program regulation 3 AAC 107.760(a) on a scale from 0 – 10, with 10 being the maximum score. The Authority will reject proposals during the review of the evaluation if:

- Any beside criteria 4 receives a score of 0; If this is the case, AEA will review the rationale for the score of 0 with the EETFAC and provide an explanation for the basis of the rejection to the applicant.
- The cumulative score for the 14 criteria does not meet the minimum score threshold of 50.

Each criteria will count towards the indicated percentage of the Proposal score with a maximum score being 100:

	Criteria identified in 3 AAC 107.760(a)	Criteria Weight
1	Feasibility of the proposed technology	15%
2	Innovation and quality of the technical explanations submitted	5%
3	How well the proposed project will test emerging energy technologies, test methods of conserving energy, improve an existing energy technology, or deploy an existing technology that has not previously been demonstrated in the state	10%
4	How well the proposed project addresses the priority considerations established for projects under the request for grant applications	15%
5	How the proposed project will demonstrate the energy technology	3%
6	Whether the proposed schedule is realistic	3%
7	Whether the energy technology can be beneficial when deployed in the state	10%
8	Suitability of the proposed project site	3%
9	Extent to which existing research and development demonstrates the energy technology and the systems and components included are likely to successfully work in the proposed location and environment in the state	15%
10	Extent to which the proposed project will advance the commercialization of the energy technology not later than the next five years	5%
11	Capabilities of the project team	5%
12	Potential commercial market for the proposed technology or energy from the technology	3%
13	Evaluation of the finance plan and budget for the proposed project	3%
14	Whether all regulatory and legal issues have been adequately addressed	5%

Applicants may be invited to make a 30-minute presentation to the Advisory Committee and AEA staff (15-minute presentation/15-minute Q&A). The Advisory Committee will recommend scores for the applications on the 14 criteria outlined in 3 AAC 107.760(a) and offer recommendations to AEA regarding rejection of proposals and full or partial funding of projects. The authority will determine whether to award or not award a grant. The authority may award a grant for less than the amount requested by the applicant. AEA will make all final application scoring and funding decisions.

A sample Proposal Evaluation Scoring sheet is attached in Appendix C.

3.3 RFA Schedule

Below is a schedule of critical dates as it relates to this RFA and the award of grants. **Actual dates after the abstract due date are tentative and may vary depending on the number of applications received and the amount of time required for adequate review.**

Task	Target Dates
Abstracts Due Date	October 10, 2016
Request Full Proposal Applications from Qualifying Abstract Proposals	November 10, 2016
Full Proposal Applications Due Date	December 9, 2016
Full Proposal Presentations to Advisory Committee	January 5, 2016
Final Recommendations Provided by Advisory Committee	January 10, 2016
Final Project Selection	January 12, 2016

Actual award dates may vary depending on any modifications that may be required to an individual grant scope, schedule and budget prior to award.

3.4 Reconsiderations

An applicant who believes an error was made when its abstract or full proposal was reviewed, rejected or ranked may request reconsideration to the executive director of the Authority. The request for reconsideration must be in writing; must explain the error made during the review, rejection, or ranking; and must be received by the Authority no more than 10 days after the notice of rejection or ranking.

The executive director on reconsiderations may accept or overturn the decision made during the review, rejection or ranking of the abstract or full proposal, or request additional information from the applicant before making a decision. If the executive director overturns the decision, the Authority shall further consider the abstract or the full proposal. The decision of the executive director on reconsiderations is the final agency decision. If the executive director fails to issue a decision not later than 30 days, the request for reconsideration is denied.

4. Grant Requirements

4.1 Reporting on Project Technology, Operations and Maintenance

A successful applicant (*i.e.,* a grantee) will be required to provide the Authority with technical and economic data, project and budget reports, and other technology validation information appropriate to the grant project, as specified by the Authority in the grant agreement. The grant agreement will require the grantee to use data collection designs and processes to capture performance information and validate the demonstrated technology. The Authority may use third party agents to assist in creating the data plans, inspect instrumentation, and receive and analyze data from the grantee. The grant agreement will provide that if the grantee fails to cooperate in providing required information and data, the Authority may cancel the project, require reimbursement of grant funds, determine the grantee ineligible for future emerging energy technology fund grants or other grants from the Authority, or take a combination of these actions.

5. Further Information about the RFA

5.1 RFA Project Web Site

The AEA website at http://akenergyauthority.com/Programs/EETF1 has been set up to make information available to the public regarding the program. The site contains links to the following information and documents:

- The RFA
- A summary of relevant questions received regarding the RFA and responses (FAQs)
- Clarifications and addenda to the RFA

- A list of all abstracts received
- PDF versions of all abstracts received (upon completion of the review and selection process)

5.2 Questions about the RFA

Applicants should carefully review all documents and the Authority website prior to contacting the Grant Manager with questions. Any questions regarding the RFA or grant documents should be directed to:

Grant Manager: Shawn Calfa
Alaska Energy Authority
813 West Northern Lights Blvd
Anchorage, AK 99503
Phone: (907) 771-3031
Fax: (907) 771-3942
E-mail: scalfa@aidea.org

Questions that require clarification or interpretation of this RFA that the applicant cannot answer by careful review of the RFA should be submitted in writing (letter or e-mail) no later than **10 business days before the October 7, 2016 application due date**.

The Grant Manager may contact the applicant directly by phone or e-mail to respond to non-material questions. The Grant Manager will post the answer to questions deemed relevant to other applicants on a Frequently Asked Question (FAQ) section of the program website and send a notification to the EmergingEnergyFund list server.

5.3 Useful Links

AEA links:

1. Power Cost Equalization (PCE) Data (http://www.akenergyauthority.org/programspce.html)
2. RE Fund applications and analysis http://akenergyauthority.com/Programs/RenewableEnergyFund
3. AEA program websites (http://www.akenergyauthority.org/programs.html)

Other links:

1. DCCED community database (http://www.dced.state.ak.us/dca/commdb/CF_CIS.htm)
2. Denali Commission EETG projects (http://energy-alaska.wikidot.com/emerging-energy- technology-grant)
3. Alaska Center for Energy and Power (ACEP) test facilities (http://www.uaf.edu/acep/facilities/)
4. National labs:
    a. NREL (http://www.nrel.gov/),
    b. AETDL (http://www.alaska.edu/uaf/cem/ine/aetdl/)
    c. NETL (http://www.netl.doe.gov/)
    d. Sandia National Laboratories (http://www.sandia.gov/)
    e. ARPA-E (http://arpa-e.energy.gov/)

5.4 Technology Readiness Levels

The following table of Technology Readiness Levels (“TRL”) is adapted from the Department of Energy’s definitions and will be used during the technical review as a framework for assessing an abstract’s technology readiness. The use of TRL will assist AEA and the Advisory Committee to understand the current state of development of the project proposal, and the anticipated level of development after the project life under this grant which will help evaluation the feasibility, schedule, and commercialization criteria identified in 3 ACC 107.745.

Technology Readiness Levels

Relative Level of Technology Development	Technology Readiness Level	TRL Definition	Description
System Operations	TRL 9	Actual system operated over the full range of expected mission conditions.	The technology is in its final form and operated under the full range of operating mission conditions. Examples include using the actual system with the full range of wastes in hot operations.
System Commissioning	TRL 8	Actual system completed and qualified through test and demonstration.	The technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development. Examples include developmental testing and evaluation of the system with actual waste in hot commissioning. Supporting information includes operational procedures that are virtually complete. An Operational Readiness Review (ORR) has been successfully completed prior to the start of hot testing.
	TRL 7	Full-scale, similar (prototypical) system demonstrated in relevant environment	This represents a major step up from TRL 6, requiring demonstration of an actual system prototype in a relevant environment. Examples include testing full-scale prototype in the field with a range of simulants in cold commissioning[1]. Supporting information includes results from the full-scale testing and analysis of the differences between the test environment, and analysis of what the experimental results mean for the eventual operating system/environment. Final design is virtually complete.
Technology Demonstration	TRL 6	Engineering/pilot-scale, similar (prototypical) system validation in relevant environment	Engineering-scale models or prototypes are tested in a relevant environment. This represents a major step up in a technology's demonstrated readiness. Examples include testing an engineering scale prototypical system with a range of simulants.[1] Supporting information includes results from the engineering scale testing and analysis of the differences between the engineering scale, prototypical system/environment, and analysis of what the experimental results mean for the eventual operating system/environment. TRL 6 begins true engineering development of the technology as an operational system. The major difference between TRL 5 and 6 is the step up from laboratory scale to engineering scale and the determination of scaling factors that will enable design of the operating system. The prototype should be capable of performing all the functions that will be required of the operational system. The operating environment for the testing should closely represent the actual operating environment.
Technology Development	TRL 5	Laboratory scale, similar system validation in relevant environment	The basic technological components are integrated so that the system configuration is similar to (matches) the final application in almost all respects. Examples include testing a high-fidelity, laboratory scale system in a simulated environment with a range of simulants[1] and actual waste[2]. Supporting information includes results from the laboratory scale testing, analysis of the differences between the laboratory and eventual operating system/environment, and analysis of what the experimental results mean for the eventual operating system/environment. The major difference between TRL 4 and 5 is the increase in the fidelity of the system and environment to the actual application. The system tested is almost prototypical.

Relative Level of Technology Development	Technology Readiness Level	TRL Definition	Description
Technology Development	TRL 4	Component and/or system validation in laboratory environment	The basic technological components are integrated to establish that the pieces will work together. This is relatively "low fidelity" compared with the eventual system. Examples include integration of ad hoc hardware in a laboratory and testing with a range of simulants and small scale tests on actual waste[2]. Supporting information includes the results of the integrated experiments and estimates of how the experimental components and experimental test results differ from the expected system performance goals. TRL 4-6 represent the bridge from scientific research to engineering. TRL 4 is the first step in determining whether the individual components will work together as a system. The laboratory system will probably be a mix of on hand equipment and a few special purpose components that may require special handling, calibration, or alignment to get them to function.
Research to Prove Feasibility	TRL 3	Analytical and experimental critical function and/or characteristic proof of concept	Active research and development (R&D) is initiated. This includes analytical studies and laboratory-scale studies to physically validate the analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative tested with simulants.[1] Supporting information includes results of laboratory tests performed to measure parameters of interest and comparison to analytical predictions for critical subsystems. At TRL 3 the work has moved beyond the paper phase to experimental work that verifies that the concept works as expected on simulants. Components of the technology are validated, but there is no attempt to integrate the components into a complete system. Modeling and simulation may be used to complement physical experiments.
Basic Technology Research	TRL 2	Technology concept and/or application formulated	Once basic principles are observed, practical applications can be invented. Applications are speculative, and there may be no proof or detailed analysis to support the assumptions. Examples are still limited to analytic studies. Supporting information includes publications or other references that outline the application being considered and that provide analysis to support the concept. The step up from TRL 1 to TRL 2 moves the ideas from pure to applied research. Most of the work is analytical or paper studies with the emphasis on understanding the science better. Experimental work is designed to corroborate the basic scientific observations made during TRL 1 work.
	TRL 1	Basic principles observed and reported	This is the lowest level of technology readiness. Scientific research begins to be translated into applied R&D. Examples might include paper studies of a technology's basic properties or experimental work that consists mainly of observations of the physical world. Supporting Information includes published research or other references that identify the principles that underlie the technology.

[1] Simulants should match relevant chemical and physical properties.

[2] Testing with as wide a range of actual waste as practicable and consistent with waste availability, safety, ALARA, cost and project risk is highly desirable.

Appendix A: Intellectual Property Provisions (GNP-115) Grant and Cooperative Agreement Research, Development, or Demonstration Non-Federal Entity

(State, Local government, Indian tribe, Institution of higher education, or Nonprofit organization)

A Non-Federal Entity is subject to the intellectual property requirements at 2 CFR 200.315.

2 CFR 200.315 Intangible Property

(a) Title to intangible property (see §200.59 Intangible property) acquired under a Federal award vests upon acquisition in the non-Federal entity. The non-Federal entity must use that property for the originally-authorized purpose, and must not encumber the property without approval of the Federal awarding agency. When no longer needed for the originally authorized purpose, disposition of the intangible property must occur in accordance with the provisions in §200.313 Equipment paragraph (e).

(b) The non-Federal entity may copyright any work that is subject to copyright and was developed, or for which ownership was acquired, under a Federal award. The Federal awarding agency reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.

(c) The non-Federal entity is subject to applicable regulations governing patents and inventions, including government wide regulations issued by the Department of Commerce at 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Awards, Contracts and Cooperative Agreements."

(d) The Federal government has the right to:

(1) Obtain, reproduce, publish, or otherwise use the data produced under a Federal award; and

(2) Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

(e) Freedom of Information Act (FOIA).

(1) In response to a Freedom of Information Act (FOIA) request for research data relating to published research findings produced under a Federal award that were used by the Federal government in developing an agency action that has the force and effect of law, the Federal awarding agency must request, and the non-Federal entity must provide, within a reasonable time, the research data so that they can be made available to the public through the procedures established under the FOIA. If the Federal awarding agency obtains the research data solely in response to a FOIA request, the Federal awarding agency may charge the requester a reasonable fee equaling the full incremental cost of obtaining the research data. This fee should reflect costs incurred by the Federal agency and the non-Federal entity. This fee is in addition to any fees the Federal awarding agency may assess under the FOIA (5 U.S.C. 552(a)(4)(A)).

(2) Published research findings means when:

(i) Research findings are published in a peer-reviewed scientific or technical journal; or

(ii) A Federal agency publicly and officially cites the research findings in support of an agency action that has the force and effect of law. "Used by the Federal government in developing an agency

action that has the force and effect of law" is defined as when an agency publicly and officially cites the research findings in support of an agency action that has the force and effect of law.

(3) Research data means the recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues. This "recorded" material excludes physical objects (e.g., laboratory samples). Research data also do not include:

(i) Trade secrets, commercial information, materials necessary to be held confidential by a researcher until they are published, or similar information which is protected under law; and

(ii) Personnel and medical information and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, such as information that could be used to identify a particular person in a research study.

37 CFR 401.14 Standard Patent Rights Clauses.

(a) The following is the standard patent rights clause to be used as specified in §401.3(a).

Patent Rights (Small Business Firms and Nonprofit Organizations)

(a) Definitions

(1) *Invention* means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 *et seq.*).

(2) *Subject invention* means any invention of the *contractor* conceived or first actually reduced to practice in the performance of work under this *contract,* provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of *contract* performance.

(3) *Practical Application* means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.

(4) *Made* when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(5) *Small Business Firm* means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.

(6) *Nonprofit Organization* means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

(b) Allocation of Principal Rights

The *Contractor* may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the *Contractor* retains title, the Federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

(c) Invention Disclosure, Election of Title and Filing of Patent Application by *Contractor*

(1) The *contractor* will disclose each subject invention to the *Federal Agency* within two months after the inventor discloses it in writing to *contractor* personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the *contract* under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the *agency,* the *Contractor* will promptly notify the *agency* of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the *contractor.*

(2) The *Contractor* will elect in writing whether or not to retain title to any such invention by notifying the *Federal agency* within two years of disclosure to the *Federal agency.* However, in any case where publication, on sale or public use has initiated the one-year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the *agency* to a date that is no more than 60 days prior to the end of the statutory period.

(3) The *contractor* will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The *contractor* will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure, election, and filing under subparagraphs (1), (2), and (3) may, at the discretion of the *agency,* be granted.

(d) Conditions When the Government May Obtain Title
The *contractor* will convey to the *Federal agency,* upon written request, title to any subject invention—

(1) If the *contractor* fails to disclose or elect title to the subject invention within the times specified in (c), above, or elects not to retain title; provided that the *agency* may only request title within 60 days after learning of the failure of the *contractor* to disclose or elect within the specified times.

(2) In those countries in which the *contractor* fails to file patent applications within the times specified in (c) above; provided, however, that if the *contractor* has filed a patent application in a country after the times specified in (c) above, but prior to its receipt of the written request of the *Federal agency,* the *contractor* shall continue to retain title in that country.

(3) In any country in which the *contractor* decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding

on, a patent on a subject invention.

(e) Minimum Rights to *Contractor* and Protection of the *Contractor* Right to File

(1) The *contractor* will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the *contractor* fails to disclose the invention within the times specified in (c), above. The *contractor's* license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the *contractor* is a party and includes the right to grant sublicenses of the same scope to the extent the *contractor* was legally obligated to do so at the time the *contract* was awarded. The license is transferable only with the approval of the *Federal agency* except when transferred to the successor of that party of the *contractor's* business to which the invention pertains.

(2) The *contractor's* domestic license may be revoked or modified by the *funding Federal agency* to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR part 404 and *agency* licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the *contractor* has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the *funding Federal agency* to the extent the *contractor,* its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, the *funding Federal agency* will furnish the *contractor* a written notice of its intention to revoke or modify the license, and

(4) the *contractor* will be allowed thirty days (or such other time as may be authorized by the *funding Federal agency* for good cause shown by the *contractor*) after the notice to show cause why the license should not be revoked or modified. The *contractor* has the right to appeal, in accordance with applicable regulations in 37 CFR part 404 and *agency* regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

(f) *Contractor* Action to Protect the Government's Interest

(1) The *contractor* agrees to execute or to have executed and promptly deliver to the *Federal agency* all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the *contractor* elects to retain title, and (ii) convey title to the *Federal agency* when requested under paragraph (d) above and to enable the government to obtain patent protection throughout the world in that subject invention.

(2) The *contractor* agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the *contractor* each subject invention made under *contract* in order that the *contractor* can comply with the disclosure provisions of paragraph (c), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (c)(1), above. The *contractor* shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The *contractor* will notify the *Federal agency* of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of

the response period required by the relevant patent office.

(4) The *contractor* agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with government support under (identify the *contract*) awarded by (identify the Federal agency). The government has certain rights in the invention."

(g) Subcontracts

(1) The *contractor* will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the *contractor* in this clause, and the *contractor* will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(2) The *contractor* will include in all other subcontracts, regardless of tier, for experimental developmental or research work the patent rights clause required by 2 CFR 910.362(c)

(3) In the case of subcontracts, at any tier, when the prime award with the Federal agency was a contract (but not a grant or cooperative agreement), the *agency,* subcontractor, and the contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the Federal agency with respect to the matters covered by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (j) of this clause.

(h) Reporting on Utilization of Subject Inventions

The *Contractor* agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the *contractor* or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the contractor, and such other data and information as the *agency* may reasonably specify. The *contractor* also agrees to provide additional reports as may be requested by the *agency* in connection with any march-in proceeding undertaken by the *agency* in accordance with paragraph (j) of this clause. As required by 35 U.S.C. 202(c)(5), the *agency* agrees it will not disclose such information to persons outside the government without permission of the *contractor.*

(i) Preference for United States Industry

Notwithstanding any other provision of this clause, the *contractor* agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the *Federal agency* upon a showing by the *contractor* or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(j) March-in Rights

The *contractor* agrees that with respect to any subject invention in which it has acquired title, the *Federal agency* has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the *agency* to require the *contractor,* an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in

any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the *contractor,* assignee, or exclusive licensee refuses such a request the *Federal agency* has the right to grant such a license itself if the *Federal agency* determines that:

(1) Such action is necessary because the *contractor* or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the *contractor,* assignee or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the *contractor,* assignee or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

(k) Special Provisions for *Contracts* with Nonprofit Organizations

If the *contractor* is a nonprofit organization, it agrees that:

(1) Rights to a subject invention in the United States may not be assigned without the approval of the *Federal agency,* except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the *contractor;*

(2) The *contractor* will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) The balance of any royalties or income earned by the *contractor* with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and

(4) It will make efforts that are reasonable under the circumstances to attract licensees of subject invention that are small business firms and that it will give a preference to a small business firm when licensing a subject invention if the *contractor* determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the *contractor* is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the *contractor.* However, the *contractor* agrees that the Secretary may review the *contractor's* licensing program and decisions regarding small business applicants, and the *contractor* will negotiate changes to its licensing policies, procedures, or practices with the Secretary when the Secretary's review discloses that the *contractor* could take reasonable steps to implement more effectively the requirements of this paragraph (k)(4).

(l) Communication

All communications required by this Patent Rights clause should be sent to the DOE Patent Counsel address listed in the Award Document.
Appendix B: Department of Energy Environmental Questionnaire (NETL F 451.1-1/3)

Appendix B: Department of Energy Environmental Questionnaire, NETL F 451.1 – 1/3

All applicants must fill out a Department of Energy (DOE) Environmental Questionnaire (EQ) to be eligible to receive EMTS funding. The form is attached on the following pages but can be downloaded from https://www.netl.doe.gov/File%20Library/Business/forms/451_1-1-3.pdf and filled out electronically.

NETL F 451.1-1/3
Revised: 12/3/2014
Reviewed: 12/3/2014
(Previous Editions Obsolete)

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

I. INSTRUCTIONS

The proposer shall prepare this Environmental Questionnaire (EQ) as accurately and completely as possible. Supporting information can be provided as attachments. The proposer must identify the location of the project and specifically describe the activities that would occur at that location. The proposer must provide specific information and quantities, regarding air emissions, wastewater discharges, solid wastes, etc., to facilitate the necessary review. In addition, the proposer must submit with this EQ a FINAL copy of the project's statement of work (SOW) or statement of project objective (SOPO) that will be used in the contract/agreement between the proposer and the U.S Department of Energy (DOE).

II. QUESTIONNAIRE

A. PROJECT SUMMARY

1. Solicitation/Project Number: _____ Proposer: _____
2. This Environmental Questionnaire pertains to a: ☐ Recipient or Prime Contractor ☐ Sub-recipient or Subcontractor
3. Principal Investigator: _____ Telephone Number: _____
4. Project Title: _____
5. Expected Project Duration: _____
6. Location of Activities covered by **this** Environmental Questionnaire: (City/Township, County, State):
7. List the full scope of activities planned (only for the location that is the subject of this Environmental Questionnaire).
8. List all other locations where work would be performed by the primary contractor of the project and subcontractor(s). Each of the following must have an individual Environmental Questionnaire.

Subcontractor or sub-recipient	Location of activities for this project

9. Identify and select the checkbox with the predominant project work activities under Group A, B, or C

Group A

☐ Routine administrative, procurement, training, and personnel actions. Contract activities/awards for management support, financial assistance, and technical services in support of agency business, programs, projects, and goals. Literature searches and information gathering, material inventories, property surveys; data analysis, computer modeling, analytical reviews, technical summary, conceptual design, feasibility studies, document preparation, data dissemination, and paper studies. Technical assistance including financial planning, assistance, classroom training, public meetings, management training, survey participation, academic contribution, technical consultation, and stakeholders surveys. Workshop and conference planning, preparation, and implementation which may involve promoting energy efficiency, renewable energy, and energy conservation.

STOP! ***If all work activities related to this project can be classified and described within categories under Group A, proceed directly to Section III CERTIFICATION BY PROPOSER. No additional information is required.***
If project work activities are described in either Group(s) B or C; then continue filling out questionnaire.

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ENVIRONMENTAL QUESTIONNAIRE

Group B

☐ **Laboratory Scale Research, Bench** Scale Research, Pilot Scale Research, Proof-of-Concept Scale Research, or Field Test Research. **Work DOES NOT involve** new building/facilities construction and site excavation/groundbreaking activities. **This work typically involves routine** operation of existing laboratories, commercial buildings/properties, offices and **homes, project test facilities, factories**/power plants, vehicles test stands and components, refueling facilities, utility **systems, or other existing structures**/facilities. Work will NOT involve major change in facilities missions and **operations, land use planning, new**/modified regulatory/operating permit requirements. Includes work specific to routine **DOE Site operations and Lab research** work activities, but NOT building construction and site preparation. DOE work **typically involves laboratory facilities** and lab equipment operations, buildings and grounds management activities; and **buildings and facilities maintenance**, repairs, reconfiguration, remodeling, equipment use and replacement.

Group C

☐ **Pilot Test Facilities Construction**, Pilot Scale Research, Field Scale Demonstration, or Commercial Scale Application. **Work typically involves facility construction**, site preparation/excavation/groundbreaking, and/or demolition. This work **would include construction, retrofit**, replacement, and/or major modifications of laboratories, test facilities, energy system prototypes, **and power generation** infrastructure. Work may also involve construction and maintenance of utilities system **right-of-ways, roads, vehicle test** facilities, commercial buildings/properties, fuel refinery/mixing facilities, refueling facility, **power plants, underground** wells, and pipelines, and other types of energy research related facilities. This work may require new or **modified regulatory** permits, environmental sampling and monitoring requirements, master planning, **public involvement, and environmental** impact review. Includes work specific to DOE Site Operations and Lab operation activities involving **building and** facilities construction, replacement, decommissioning/demolition, site preparation, land use changes, or **change in research** facilities mission or operations.

B. PROPOSED PROJECT ALTERNATIVES

1. If applicable, list any project alternatives considered to achieve the project objectives.

C. PROJECT LOCATION

1. Provide a brief description of the project location (physical location, surrounding area, adjacent structures).

2. **Attach** a project site location map of the project work area.

D. ENVIRONMENTAL IMPACTS

NEPA procedures require evaluations of possible effects (including land use, energy resource use, natural, historic and cultural resources, and pollutants) from proposed projects on the environment.

1. Land Use

a. Characterize present land use where the proposed project would be located.

☐ Urban ☐ Industrial ☐ Commercial ☐ Agricultural
☐ Suburban ☐ Rural ☐ Residential ☐ Research Facilities
☐ Forest ☐ University Campus ☐ Other: _____

b. Identify the total size of the facility, structure, or system and what portion would be used for the proposed project.

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ENVIRONMENTAL QUESTIONNAIRE

c. Describe planned construction, installation, and/or demolition activities, i.e., roads, utilities system right-of-ways, parking lots, buildings, laboratories, storage tanks, fueling facilities, underground wells, pipelines, or other structures.
☐ No construction would be anticipated for this project.

d. Describe how land use would be affected by operational activities associated with the proposed project.
☐ No land areas would be affected.

e. Describe any plans to reclaim areas that would be affected by the proposed project.
☐ No land areas would be affected.

f. Would the proposed project affect any unique or unusual landforms (e.g., cliffs, waterfalls, etc.)?
☐ No ☐ Yes (describe)

g. Would the proposed project be located in or near local, state, or federal parks; forests; monuments; scenic waterways; wilderness; recreation facilities; or tribal lands? ☐ No ☐ Yes (describe)

2. Construction Activities and/or Operation

a. Identify project structure(s), power line(s), pipeline(s), utilities system(s), right-of-way(s) or road(s) that will be constructed and clearly mark them on a project site map or topographic map as appropriate. ☐ None

b. Would the proposed project require the construction of waste pits or settling ponds?
☐ No ☐ Yes (describe and identify location, and estimate surface area disturbed)

c. Would the proposed project affect any existing body of water? ☐ No ☐ Yes (describe)

d. Would the proposed project impact a floodplain or wetland? ☐ No ☐ Yes (describe)

e. Would the proposed project potentially cause runoff/sedimentation/erosion? ☐ No ☐ Yes (describe)

f. Would the proposed project include activities located on perma-frost, near fault zones, or involve fracturing, well drilling, geologic stimulation, sequestration, active seismic data collection, and/or deepwater operations?
☐ No ☐ Yes (describe)

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ENVIRONMENTAL QUESTIONNAIRE

g. Would the proposed project involve any of the following: nanotechnology; recombinant DNA or genetic engineering; facility decommissioning or disposition of equipment/materials; or management of radioactive wastes/materials?
☐ No ☐ Yes (describe)

3. Biological Resources

a. Identify any State or Federally listed endangered or threatened plant or animal species potentially affected by the proposed project.
☐ None

b. Would any designated critical habitat be affected by the proposed project? ☐ No ☐ Yes (describe)

c. Describe any impacts that construction would have on any other types of sensitive or unique habitats.
☐ No planned construction ☐ No habitats ☐ None ☐ Impact (describe)

d. Would any foreign substances/materials be introduced into ground or surface waters, soil, or other earth/geologic resource because of project activities? How would these foreign substances/materials affect the water, soil, biota, and geologic resources? ☐ No ☐ Yes (describe)

e. Would any migratory animal corridors be impacted or disrupted by the proposed project? ☐ No ☐ Yes (describe)

4. Socioeconomic and Infrastructure Conditions

a. Would local socio-economic changes result from the proposed project? ☐ No ☐ Yes (describe)

b. Would the proposed project generate increased traffic use of roads through local neighborhoods, urban or rural areas?
☐ No ☐ Yes (describe)

c. Would the proposed project require new transportation access (roads, rail, etc.)? Describe location, impacts, costs.
☐ No ☐ Yes (describe)

d. Would the proposed project create a significant increase in local energy usage? ☐ No ☐ Yes (describe)

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ENVIRONMENTAL QUESTIONNAIRE

5. Historical/Cultural Resources

a. Describe any historical, archaeological, or cultural sites in the vicinity of the proposed project; note any sites included on the National Register of Historic Places. ☐ None

b. Would construction or operational activities planned under the proposed project disturb any historical, archaeological, or cultural sites? ☐ No planned construction ☐ No historic sites ☐ Yes (describe) ☐ No Impact (discuss)

c. Has the State Historic Preservation Office been contacted with regard to this project? ☐ No ☐ Yes (describe)

d. Would the proposed project interfere with visual resources (e.g., eliminate scenic views) or alter the present landscape?
☐ No ☐ Yes (describe)

e. Would the proposed project be located on or adjacent to tribal lands, lands considered to be sacred, or lands used for traditional purposes? Describe any known tribal sensitivities for the proposed project area.

6. Atmospheric Conditions/Air Quality

a. Identify air quality conditions in the immediate vicinity of the proposed project with regard to attainment of National Ambient Air Quality Standards (NAAQS). This information is available under the Green Book Non-Attainment Areas for Criteria Pollutants located at http://www.epa.gov/air/oaqps/greenbk/astate.html

	Attainment	Non-Attainment
O_3 - 1 Hour	☐	☐
O_3 - 8 Hour	☐	☐
SO_x	☐	☐
PM - 2.5	☐	☐
PM - 10	☐	☐
CO	☐	☐
NO_2	☐	☐
Lead	☐	☐

b. Would proposed project require issuance of new or modified local, state, or federal air permits to perform project related work and activities? ☐ No ☐ Yes (describe)

c. Would the proposed project be in compliance with local and state air quality requirements? ☐ Yes
If not, please explain.

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d. Would the proposed project be classified as either a New Source or a major modification to an existing source?
☐ No ☐ Yes (describe)

e. What types of air emissions, including fugitive emissions, would be anticipated from the proposed project, and what would be the maximum annual rate of emissions for the project?

	Maximum per Year	Total for Project
☐ SO_x		
☐ NO_x		
☐ PM - 2.5		
☐ PM - 10		
☐ CO		
☐ CO_2		
☐ Lead		
☐ H_2S		
☐ Organic solvent vapors or other volatile organic compounds--List:		
☐ Hazardous air pollutants -- List:		
☐ Other -- List:		
☐ None		

f. Would any types of emission control or particulate collection devices be used?
☐ No ☐ Yes (describe, including collection efficiencies)

g. How would emissions be vented?

7. Hydrologic Conditions/Water Quality

a. What nearby water bodies may be affected by the proposed project? Provide distance(s) from the project site.

b. What sources would supply potable and process water for the proposed project?

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ENVIRONMENTAL QUESTIONNAIRE

c. Quantify the wastewater that would be generated by the proposed project.

	Gallons/day	Gallons/year
☐ Non-contact cooling water		
☐ Process water		
☐ Sanitary		
☐ Other -- describe:		
☐ None		

d. What would be the major components of each type of wastewater (e.g., coal fines)? ☐ No wastewater produced

e. Identify the local treatment facility that would receive wastewater from the proposed project.
☐ No discharges to local treatment facility

f. Describe how wastewater would be collected and treated. ☐ No wastewater produced

g. Would any run-off or leachates be produced from storage piles or waste disposal sites? ☐ No ☐ Yes (describe source)

h. Would project require issuance of new or modified water permits to perform project work or site development activities?
☐ No ☐ Yes (describe)

i. Where would wastewater effluents from the proposed project be discharged? ☐ No wastewater produced

j. Would the proposed project be permitted to discharge effluents into an existing body of water?
☐ No ☐ Yes (describe water use and effluent impact)

k. Would a new or modified National Pollutant Discharge Elimination System (NPDES) permit be required?
☐ No ☐ Yes (describe)

l. Would the proposed project adversely affect the quality or movement of groundwater? ☐ No ☐ Yes (describe)

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ENVIRONMENTAL QUESTIONNAIRE

m. Would the proposed project require issuance of an Underground Injection Control (UIC) permit?

☐ No ☐ Yes (describe)

n. Would the proposed project be located in or near a wellhead protection area, drinking water protection area, or above a sole source aquifer or underground source of drinking water (USDW)?

☐ No ☐ Yes (describe)

8. Solid and Hazardous Wastes

a. Identify and estimate wastes that would be generated from the project. Solid wastes are defined as any solid, liquid, semi-solid, or contained gaseous material that is discarded, has served its intended purpose, or is a manufacturing or mining by-product (See EPA Municipal Solid Waste and Municipal Solid Waste by State).

	Annual Quantity
☐ **Municipal solid waste (e.g., paper, plastic, etc.)**	
☐ **Coal or coal by-products**	
☐ **Other -- Identify:**	
☐ **Hazardous waste – Identify:**	
☐ **None**	

b. Would project require issuance of new or modified solid waste and/or hazardous waste related permits to perform project work activities? ☐ No ☐ Yes (explain)

c. How and where would solid waste disposal be accomplished?

☐ None generated
☐ On-site (identify and describe location)
☐ Off-site (identify location and describe facility and treatment)

d. How would wastes for disposal be transported?

e. Describe hazardous wastes that would be generated, treated, handled, or stored under this project. Hazardous waste information can be found at EPA Hazardous Waste website. ☐ None

f. How would hazardous or toxic waste be collected and stored? ☐ None used or produced

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ENVIRONMENTAL QUESTIONNAIRE

g. If hazardous wastes would require off-site disposal, have arrangements been made with a certified TSD (Treatment, Storage, and Disposal) facility?

☐ Not required ☐ Arrangements not yet made ☐ Arrangements made with a certified TSD facility (identify)

9. Health/Safety Factors

a. Identify hazardous or toxic materials that would be used in the proposed project.

☐ None ☐ Hazardous or toxic materials that would be used (identify):

b. Describe the potential impacts of this project's hazardous materials on human health and the environment.

☐ None

c. Would there be any special physical hazards or health risks associated with the project? ☐ No ☐ Yes (describe)

d. Does a worker safety program exist at the location of the proposed project? ☐ No ☐ Yes (describe)

e. Would additional safety training be necessary for any new laboratory, equipment, or processes involved with the project?

☐ No ☐ Yes (describe)

f. Describe any increases in ambient noise levels to the public from construction and operational activities.

☐ None ☐ Increase in ambient noise level (describe)

g. Would project construction result in the removal of natural or other barriers that act as noise screens?

☐ No construction planned ☐ No ☐ Yes (describe)

h. Would hearing protection be required for workers? ☐ No ☐ Yes (describe)

10. Environmental Restoration and/or Waste Management

a. Would the proposed project include CERCLA removals or similar actions under RCRA or other authorities?

☐ No ☐ Yes (describe)

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ENVIRONMENTAL QUESTIONNAIRE

b. Would the proposed project include siting, construction, and operation of temporary pilot-scale waste collection and treatment facilities or pilot-scale waste stabilization and containment facilities? ☐ No ☐ Yes (describe)

c. Would the proposed project involve operations of environmental monitoring and control systems?
☐ No ☐ Yes (describe)

d. Would the proposed project involve siting, construction, operation, or decommissioning of a facility for storing packaged hazardous waste for 90 days or less? ☐ No ☐ Yes (describe)

E. REGULATORY COMPLIANCE

1. For the following laws, describe any existing permits, new or modified permits, manifests, responsible authorities or agencies, contacts, etc., that would be required for the proposed project

a. Resource Conservation and Recovery Act (RCRA): ☐ None ☐ New Required ☐ Modification Required
Describe:

b. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):
☐ None ☐ New Required ☐ Modification Required
Describe:

c. Toxic Substance Control Act (TSCA): ☐ None ☐ New Required ☐ Modification Required
Describe:

d. Clean Water Act (CWA): ☐ None ☐ New Required ☐ Modification Required
Describe:

e. Underground Storage Tank Control Program (UST): ☐ None ☐ New Required ☐ Modification Required
Describe:

f. Underground Injection Control Program (UIC): ☐ None ☐ New Required ☐ Modification Required
Describe:

g. Clean Air Act (CAA): ☐ None ☐ New Required ☐ Modification Required
Describe:

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h. Endangered Species Act (ESA): ☐ None ☐ New Required ☐ Modification Required
Describe:

i. Floodplains and Wetlands Regulations: ☐ None ☐ New Required ☐ Modification Required
Describe:

j. Fish and Wildlife Coordination Act (FWCA): ☐ None ☐ New Required ☐ Modification Required
Describe:

k. National Historic Preservation Act (NHPA): ☐ None ☐ New Required ☐ Modification Required
Describe:

l. Coastal Zone Management Act (CZMA): ☐ None ☐ New Required ☐ Modification Required
Describe:

2. Identify any other environmental laws and regulations (Federal, state, and local) for which compliance would be necessary for this project, and describe the permits, manifests, and contacts that would be required.

F. DESCRIBE ANY ISSUES THAT WOULD GENERATE PUBLIC CONTROVERSY REGARDING THE PROPOSED PROJECT. ☐ None

G. WOULD THE PROPOSED PROJECT PRODUCE ADDITIONAL DEVELOPMENT, OR ARE OTHER MAJOR DEVELOPMENTS PLANNED OR UNDERWAY, IN THE PROJECT AREA?

☐ No ☐ Yes (describe)

H. SUMMARIZE THE SIGNIFICANT IMPACTS THAT WOULD RESULT FROM THE PROPOSED PROJECT.

☐ None (provide supporting detail) ☐ Significant impacts (describe)

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

I. PROVIDE A DESCRIPTION OF HOW THE PROJECT WOULD BE DECOMMISSIONED, INCLUDING THE DISPOSITION OF EQUIPMENT AND MATERIALS.

III. CERTIFICATION BY PROPOSER

I hereby certify that the information provided herein is current, accurate, and complete as of the date shown immediately below.

Signature: _____ Date (mm/dd/yyyy): _____

Typed Name: _____

Title: _____

Organization: _____

IV. REVIEW AND APPROVAL BY DOE

I hereby certify that I have reviewed the information provided in this questionnaire, have determined that all questions have been appropriately answered, and judge the responses to be consistent with the efforts proposed.

DOE Project Manager

Signature: _____ Date (mm/dd/yyyy): _____

Typed Name: _____

Appendix C: Sample Abstract Technical and Prioritization Evaluation Score Sheets

The following tables have the criteria score filled in for a sample project.

Technical Evaluation - 70% of Total Abstract Score					
	Criteria identified in 3 AAC 107.745	**Criteria Weight**	**Criteria Score (0 - 10)**	**Technical Evaluation Score (Max of 100)**	**Total Abstract Score (Max of 70)**
1	Feasibility of the proposed technology;	20%	8	16.00	11.20
2	Innovation and quality of the technical explanations submitted;	10%	7	7.00	4.90
3	How well the proposed project will demonstrate emerging energy technologies, test methods of conserving energy, improve an existing energy technology, or deploy an existing technology that has not previously been demonstrated in the state;	15%	7	10.50	7.35
4	Whether the proposed schedule is realistic;	5%	2	1.00	0.70
5	Whether the energy technology can be beneficial when deployed in the state;	15%	4	6.00	4.20
6	How suitable the proposed project site is;	5%	3	1.50	1.05
7	Extent to which existing research and development demonstrates the energy technology and the systems and components included are likely to successfully work in the proposed location and environment in the state;	5%	7	3.50	2.45
8	Extent to which to which the proposed project will advance the commercialization of the energy technology no later than the next five years;	5%	6	3.00	2.10
9	Capabilities of the project team;	10%	8	8.00	5.60
10	Potential commercial market for the proposed technology or energy from the proposed technology;	5%	5	2.50	1.75
11	An evaluation of the finance plan and budget for the proposed project.	5%	10	5.00	3.50
		100%	Total:	64.00	44.80

Prioritization Evaluation -		30%	of Total Abstract Score		
Priority Criteria Identified in AS 42.45.375 and the RFA		**Criteria Weight**	**Criteria Score (0 - 10)**	**Evaluation Score (Max of 100)**	**Abstract Score (Max of 30)**
1	Alaska residents, associations, organizations, or institutions	10%	7	7.00	2.10
2	Partnership with the University of Alaska or another Alaska post-secondary institution	10%	5	5.00	1.50
3	Support by matching funds or in-kind partnerships	30%	8	24.00	7.20
4	Potential for widespread deployment in the state	10%	6	6.00	1.80
5	RFA Priority Considerations: 1. Microgrid Technology projects improve the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of microgrids. 2. Microgrid Enabling Technology projects allow a microgrid to be established within an electrical grid to increase the reliability, resiliency, or efficiency of electrical generation or transmission or increase the annual average renewable energy penetration level of the grid, particularly during periods of grid failure.	40%	10	40.00	12.00
		100%	Total:	82.00	24.60
				Total Abstract Score:	**69.40**