

**ADVANCED RESEARCH PROJECTS AGENCY – ENERGY (ARPA-E)
ENVIRONMENTAL IMPACT QUESTIONNAIRE (EIQ) INSTRUCTIONS**

The National Environmental Policy Act of 1969 (NEPA), codified at 42 U.S.C. §4371, et seq., requires federal agencies to evaluate potential environmental impacts of their proposed actions and programs. Therefore, all projects that will be funded by ARPA-E are subject to NEPA and must be reviewed for environmental and historic preservation compliance before project work may begin. The EIQ provides ARPA-E with the preliminary information that the agency needs to determine whether a proposed project requires additional analysis (e.g., through an Environmental Assessment or Environmental Impact Statement) or can be categorically excluded from further review under NEPA. Most of ARPA-E’s projects do not involve any specific extraordinary circumstances and can be categorically excluded from further review under 10 C.F.R. Part 1021.

SECTION I. PROJECT INFORMATION

Application Control Number	Provide the application control number for this project assigned in ARPA-E eXCHANGE.
Lead Organization	Identify the Lead Organization for the proposed project.
Name(s) of All Organizations Performing Project Activities	Identify the name(s) of all other participants performing project activities regardless of whether the activities are funded with federal funds, private funds, or at no cost.
Project Location(s) including laboratory and field test sites	City and state of project locations for each organization performing project activities. For field test sites without specific city, provide approximate location (i.e., “5 miles west of Lubbock, TX” or using GPS coordinates).
Principal Investigator (PI) / Email & Phone Number	Identify the PI for the proposed project and provide his/her email and phone number.

SECTION II. PROJECT EVALUATION

1. PUBLIC HEALTH AND SAFETY

1a. Does the proposed project pose any special physical hazards or health risks to the public or project workers?	<ul style="list-style-type: none">• Describe the physical hazards or health risks.• Describe measures that will be taken to mitigate the risks.
1b. Will all proposed project work be performed in accordance with location-specific and/or facility-specific environment, health, and safety programs and procedures?	<ul style="list-style-type: none">• Explain why the proposed project work will not be performed in accordance with location-specific and/or facility-specific environment, health, and safety programs and procedures.• Describe measures that will be taken to mitigate environmental, health, and safety risks of the proposed project.

2. NATURAL, HISTORIC, AND CULTURAL RESOURCES

2a. Will the proposed project occur outdoors or have an outdoor component?	<ul style="list-style-type: none">• Describe the environmental setting (e.g., university campus, industrial facility, landscaped office park, rural area, agricultural field) for all locations where outdoor activities will occur.• Describe the specific activities that will occur outdoors at each project location.• Confirm that outdoor activities will be performed in accordance with best practices applicable to the proposed technology.
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2b. Will the proposed project potentially affect, directly or indirectly, any federal or state-listed endangered or threatened species or designated critical habitat, including species protected by individual statute (e.g., Bald and Golden Eagle Treaty Act, Migratory Bird Treaty Act, Marine Mammal Protection Act, Magnuson-Stevens Fishery Conservation and Management Act [Essential Fish Habitat])?

- Describe how the proposed project may affect federal or state-listed endangered, threatened, or candidate species or designated critical habitats, or species protected by individual statute.
- List all federal or state-listed species or critical habitats that may be potentially affected.
- If applicable, append documentation of consultation with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service, corresponding state agency, or other supporting documents.
- *Potentially Helpful Resources:*
 - *USFWS Environmental Conservation Online System (ECOS) (<http://ecos.fws.gov/ecp/>)*
 - *USFWS Critical Habitat (<http://ecos.fws.gov/ecp/report/table/critical-habitat.html>)*
 - *USFWS Migratory Bird Treaty Act Species (<https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>)*
 - *eBird Migratory Bird Mapper (<http://ebird.org/ebird/map/>)*
 - *NOAA Fisheries list of endangered and threatened marine species under jurisdiction of the National Marine Fisheries Service (<http://www.nmfs.noaa.gov/pr/species/esa/listed.htm>)*
 - *NOAA Essential Fish Habitat Mapper (<http://www.habitat.noaa.gov/protection/efh/efhmapper/>)*

2c. Will the proposed project have potential to adversely affect, directly or indirectly, environmentally sensitive resources, including but not limited to park lands, prime farmlands, wild and scenic rivers, ecologically critical areas (e.g., coral reefs, geologic resources, or minerals)?

- Describe all environmentally sensitive resources that could be affected.
- Describe how the proposed project may affect environmentally sensitive resources.
- If applicable, append any supporting documentation.
- *Potentially Helpful Resources:*
 - *Prime farmland: U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) field office serving the area*
 - *National Wild and Scenic River System map (<https://www.rivers.gov/map.php>)*

2d. Will the proposed project have potential to adversely affect, directly or indirectly, any water resources (e.g., wetlands; floodplains; alteration of drainage patterns; stream flows; special sources of water such as sole-source aquifers, coastal zones, wellhead protection areas; groundwater; surface water; or public water supply)?

- Describe all water resources that could be affected.
- Describe how the proposed project may affect the water resources.
- If applicable, append any supporting documentation (e.g., floodplain maps, wetlands maps).
- *Potentially Helpful Resources:*
 - *FEMA Flood Map Service Center (<https://msc.fema.gov/portal>)*
 - *Floodplain maps prepared by local planning and zoning departments*

2e. Will the proposed project cause loss or destruction of cultural or historical resources (e.g., districts, sites, structures, highways, or objects) listed in or eligible for listing on the National Register of Historic Places?

- National Wetlands Inventory
(<https://www.fws.gov/wetlands/>)
- State wetland inventories
- State coastal zone management program
(<https://coast.noaa.gov/czm/mystate/>)
- Groundwater, wellhead protection areas, sole-source aquifers: state environmental protection offices

- Describe all cultural or historic resources that could be affected.
- Describe how the proposed project may affect the cultural or historic resources.
- If applicable, append documentation of consultation or State Historic Preservation Officer determination letters.
- *Potentially Helpful Resources:*
 - National Register of Historic Places database
(<https://www.nps.gov/nr/research/>)
 - State Historic Preservation Offices
(<https://www.nps.gov/nr/shpolist.htm>)

3. USE AND DISPOSAL OF MATERIALS

If the proposed project involves generation, use, storage, transportation, and/or disposal of the materials listed below, will they be managed in compliance with facility-specific environment, safety, and health requirements, any applicable permits, and federal, state, and local requirements?

- 3a. Toxic or hazardous materials/chemicals
- 3b. Pesticides
- 3c. Radiological materials, including radioisotopes
- 3d. Nanoscale materials or nanoparticles
- 3e. Recombinant DNA or genetically engineered organisms

Check “Yes” only if the project will involve an identified material and it will be managed in compliance with applicable requirements.

Check “N/A” only if the project will not involve an identified material.

Check “No” only if the project will involve an identified material and the material will not be managed in compliance with applicable requirements. **For each material where “No” is checked:**

- Explain why the materials will not be managed in compliance with facility-specific environment, safety, and health requirements; any applicable permits; and federal, state, and local requirements.
- Describe measures that will be taken to mitigate environmental, health, and safety risks associated with the material.

4. AIR EMISSIONS

4a. Will the proposed project result in the emission of any air pollutant, such as greenhouse gases, particulate matter, and airborne pollutants, *excluding de minimis emissions* (minimal air emissions that do not have significant impacts to air quality, such as evaporations from organic solvents being captured by fume hoods)?

- Describe the air emissions, specifically pollutants, that may result from proposed project activities.
- Describe pollution abatement measures.
- *Potentially Helpful Resource:* De minimis levels for criteria pollutants (http://www.ecfr.gov/cgi-bin/text-idx?SID=778edb1f5737fd0338d3fb72316fb96e&mc=t rue&node=se40.20.93_1153&rgn=div8)

4b. Will any ozone-depleting substances be used as products or contained in equipment for the proposed project?

- List the ozone-depleting substances, quantities, and the manner in which they will be used.
- Describe pollution abatement measures.

5. OTHER CONSIDERATIONS

5a. Will the proposed project involve new construction or physical modification of existing facilities?

- Describe the construction and/or physical modification activities in detail. Physical modifications may include (but are not limited to) HVAC unit installation, utility alteration or installation, generator installation, or interior building renovation to install partition wall. Specific terminology, such as “grade,” “dig,” or “haul,” is preferred over vague terminology such as “construct,” “implement,” or “operate.”

5b. Will the proposed project include any clearing or excavation (e.g., uncovering or disturbance of soil, sediments, or land subsurfaces) by digging, grading, or blasting?

- Describe the purpose and method for ground disturbance.
- Describe the estimated total extent (depth, length, width) of the disturbance.
- Describe if the project location was previously disturbed and the current condition of the area.

5c. Is there potential for public controversy regarding the effects of the proposed project on the quality of the human environment?

- Describe the issue and level of public interest in the issue.
- If applicable, append any supporting documentation (e.g., copy of transcript from public hearing or outreach materials).

5d. Are the potential effects of the proposed project on the human environment highly uncertain or do the effects involve unique or unknown risks?

- Describe any highly uncertain potential effects of the proposed project on the human environment.
- Describe any unique or unknown risks associated with the potential effects of the proposed project on the human environment.
- Describe any measures that will be taken to address the highly uncertain potential effects and/or associated unique or unknown risks.
- *Note: Unique or unknown risks do not include technical project risks associated with factors such as design, engineering, fabrication, and testing.*

5e. Will the proposed project include human-subject research? (as defined under applicable regulations, e.g., including, but not limited to, collecting data through intervention or interaction with an individual, or manipulating the individual’s environment for research purposes)

- Describe the specific interventions and interactions with human subjects included in the proposed project. (i.e., purpose and method of interaction)
- Please describe your plans for compliance with applicable human subject research laws and regulations, including DOE Order 443.1A.
- If you believe the particular activities you will conduct are not subject to review by an IRB, provide the rationale for why the activity is exempt.

6. CONSISTENCY WITH FEDERAL, STATE, TRIBAL, REGIONAL, OR LOCAL REQUIREMENTS

6a. Will the proposed project activities be carried out in compliance with all federal, state, tribal, regional, and local requirements, including any regulatory reviews or permitting (e.g., electrical installation permits, air emission permits, hazardous waste disposal permits, water use/quality permits, Animal and Plant Health Inspection Service regulations, NIH Guidelines for Research Involving Recombinant DNA Molecules)?

6b. Will the proposed project require new permits or modifications to existing permits?

6c. Has the proposed project been or will the project be reviewed by another federal agency under NEPA (e.g., such as part of another agency's additional financial assistance or permit application process)?

- Explain why the proposed project activities will not be carried out in compliance with all federal, state, tribal, regional, and local requirements, including regulatory reviews or permitting.
- Describe measures that will be taken to mitigate environmental, health, and safety risks of the proposed project.
- Identify all permitting authorities (federal, state, regional, and local) that would have jurisdiction over the proposed project activities.
- Specify the type and purpose of each permit to be obtained or modified for the project.
- Indicate status of obtaining each permit and resulting permit conditions expected.
- Identify environmental studies or evaluations to be performed associated with the permitting actions.
- Confirm that appropriate allowances have been made in budgeting and scheduling the proposed project for acquiring necessary permits and fulfilling permit conditions.
- List all federal agencies that conducted or will conduct reviews under NEPA associated with the proposed project, if any.
- Describe the purpose of the review and indicate any associated permits.
- Describe the determination and results of reviews.
- If applicable, append any supporting documentation.