Notes: The content with maroon color and grey background in this template is for illustration purpose; Please delete it before submission.

- All pages must be formatted to fit on 8.5” x 11” paper with margins not less than one inch on every side.
- Use **Calibri** typeface, a **black font** color, and a font size of **12-point** or larger (except in figures or tables, which may be 10-point font).
- A symbol font may be used to insert Greek letters or special characters, but the font size requirement still applies.
- References must be included as footnotes or endnotes in a font size of 10 or larger.
- Footnotes and endnotes are counted toward the maximum page requirement.
- Page numbers must be included in the footer of every page.
- The Technical Volume must not be more than 15 pages including the cover page, table of contents, citations, charts, graphs, maps, photos, or other graphics

Technical Volume Cover Page

Notice of Funding Opportunity DE-FOA-0003446

Project title:
Applicant Name:
Application Address:
Principal Investigator (Name, Address if different than Applicant's, Phone Number, E-mail):
Business Point of Contact (Name, Address if different than Applicant's, Phone Number, E-mail):
Names of all team member organizations (if applicable):
Project Location(s):
Federal Share:
Cost Share:
Total Estimated Project Cost:
Period of Performance:
Federal Share and Cost Share by Team Member Organization:

Include any statements regarding confidentiality.

>>>
APPLICANTS ARE STRONGLY ENCOURAGED TO ENSURE THE SUBMISSION MEETS ALL OF THE FORM AND CONTENT REQUIREMENTS SPECIFIED IN THE FOA.

Checkbox	Item
☐	**The Technical Volume does NOT exceed the maximum page limitations set forth in the NOFO (in total) including the cover page, table of contents, references, charts, graphs, maps, photographs, other pictorial presentations, and other reference material the applicant may include with the submission.**
☐	The Technical Volume is saved as an Adobe Portable Format file (.PDF)
☐	The Technical Volume is written in English.
☐	All pages must be formatted to fit on 8.5 x 11 inch paper with margins not less than one inch on every side. Use Calibri typeface, a black font color, and a font size of 12 point or larger (except in figures or tables, which may be 10 point font). A symbol font may be used to insert Greek letters or special characters, but the font size requirement still applies.
☐	References have been included as footnotes or endnotes within the specified page limitations
☐	The Technical Volume does not include any Internet addresses (URLs) that provide information necessary to review the application.
☐	The cost information on the Technical Volume cover page is consistent with the subject budget/budget justification(s).

Table of Contents

Contents

Project Objectives

Clear, concise statement of the specific objectives/aims of the proposed project

Merit Review Criteria Discussion

The section should be formatted to address each of the merit review criterion and sub criterion listed in "Technical Review Criteria". Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. DOE will evaluate and consider only those applications that address separately each of the merit review criterion and sub-criterion.

CRITERION 1: TECHNICAL MERIT AND INNOVATION (40%)

This criterion will evaluate the technical merit and feasibility of the proposed concept/project as detailed in the application. This criterion will also be used to gauge the degree of innovation of the proposed solution in comparison to contemporary technology, along with the effectiveness of the proposal in addressing the technical requirements specified in the NOFO.

1. Level of the Applicant's/project team's understanding of the state of existing and emerging technology as indicated by the degree of clarity and thoroughness articulated in the description of the proposed solution/approach.
2. Extent to which the proposed technical concept/project is innovative compared to previous and ongoing work, and existing and emerging approaches and technologies.
3. Extent to which the application clearly and convincingly demonstrates how the proposed technical concept/project will advance the relevant technology beyond the current level of development.
4. Validity/viability of the proposed technical concept/project as evidenced by peer reviewed or collaborated data, and/or results of previous and ongoing work.
5. Degree to which the proposed technical concept/project addresses the key objectives outlined in the NOFO.
6. Adequacy of the technology development strategy to move the technology solution and/or methodology to the next logical stage of RD&D.

CRITERION 2: SIGNIFICANCE AND IMPACT (25%)

This criterion will evaluate the significance of implementation of the proposed technical concept/project; and the resultant impact to operational efficiency, safety, resiliency and reliability of electricity delivery systems and the overall energy sector in a cost-effective manner.

1. Extent to which the proposed technical concept/project outcomes meets or exceeds the goals or performance targets specified in the NOFO.
2. Degree to which the application clearly and convincingly describes/explains the performance improvement of the proposed technical concept/project over existing and emerging approaches and technologies.
3. Extent of the performance improvement of the proposed technical concept/project over existing and emerging approaches and technologies.

4. Degree to which the application clearly and convincingly conveys broad impacts to the electric power grid sector.
5. Extent to which the proposed approach fosters collaboration and would lead to dissemination of data, results, and lessons learned to relevant entities not immediately involved with the project.

CRITERION 3: PROJECT EXECUTION AND MANAGEMENT APPROACH (20%)

This criterion will evaluate the level of the Applicant's management skills and the adequacy, appropriateness, and reasonableness of the proposed management strategy to achieve the stated goals and objectives of both the NOFO and the proposed technical concept/project as articulated through the Project Management Plan (PMP) and Statement of Project Objectives (SOPO).

1. Level of the Applicant's project management skills and thoroughness of the PMP as demonstrated by the use of sound project management principles to clearly define the roles and responsibilities of the project team, an appropriate schedule of tasks, with associated interdependencies, milestones, and the use of sound risk mitigation strategies and plans. At a minimum, the PMP must address the following elements:
   - Executive Summary/Technical Approach – clarity and conciseness of the project description which, at a minimum, must discuss the objectives, goals, expected results, and technical approach.
   - Key Personnel – appropriate utilization of the project team's key personnel; including the principal investigator (PI), business point of contact, and any other individuals having significant tasks or responsibilities in the execution of the project.
   - Funding and Costing Profile – adequacy of detail (including a Budget Table and Quarterly Spending Plan) in describing how the Applicant will manage and monitor the execution of the project budget.
   - Milestone Log – extent to which each milestone in the Milestone Log is appropriate, specific, measurable, achievable, relevant, timely, verifiable, and shows progress toward achievement of project goals. At a minimum, each milestone must include a description, planned completion date, and verification method.
   - Project Schedule – adequacy and relevance of interdependencies between tasks. The schedule must clearly indicate milestones identified in the Milestone Log and include a proposed project timeline broken down by phase and task (as identified in the SOPO) with team members and their roles. The schedule must also indicate the deliverables identified in the Project Deliverables Log, which must include each deliverable's title, associated phase/task, and planned completion date.
   - Risk Management – extent to which the application identifies and defines the potential risks that may impact project success and the adequacy of the proposed approach to continue to assess and address risks throughout the project.
2. Degree to which the SOPO provides a sufficiently detailed, concise, and understandable description of the tasks, subtasks, and deliverables by which the overall project scope will be performed, and the project objectives will be achieved. At a minimum, the SOPO must address the following:

- Objectives – extent to which the overall objectives of the project, and the objective for each phase of work (if applicable), are clearly described.
- Scope of Project – appropriateness of the focus and effort to achieve the objectives of the proposed technical concept/project.
- Tasks (and Subtasks) to be Performed – extent to which tasks (and subtasks) are clearly defined and organized in a logical sequence that increases the likelihood of achieving the objectives of the proposed technical concept/project. As warranted, go/no-go decision point(s) are to be included that demonstrate meaningful and measurable technical progress and provide justification for the continuance of the proposed technical concept/project.
- Technical Deliverables – appropriateness of proposed deliverables (beyond those required by this NOFO) and their relevance to the corresponding task.
- Briefings/Technical Presentations – appropriateness of the Applicant's planned briefing(s) and/or technical presentation(s).

CRITERION 4: TEAM AND RESOURCES (15%)

This criterion will evaluate the likelihood that the project team, facilities, and other resources are appropriate and sufficient to achieve the project's proposed goals and objectives.

1. Adequacy and appropriateness of the qualifications, expertise, and experience of key personnel and team members.
2. Suitability of the project team that includes expertise from the following groups:
   a. Research Institutions
   b. Energy Sector Partners
   c. Technology Providers
3. Availability of key personnel.
4. (As applicable) The appropriateness, and quality of past peer reviewed publications of key personnel and team members demonstrate the team's technical expertise and past results.
5. Degree of demonstrated experience and past collaboration of the project team in completing comparable efforts that yielded successful technology development and deployment (as applicable).
6. Level of dedication of the project team as demonstrated by letters of commitment that clearly identify each participant's role, contribution, and amount of proposed cost share.
7. Availability, appropriateness, adequacy, and condition of facilities and equipment.
8. Diverse partnerships that are conducive to inter-disciplinary knowledge generation.

Relevance and Outcomes/Impacts

This section should explain the relevance of the effort to the objectives in the program announcement and the expected outcomes and/or impacts. The justification for the proposed project should include a clear statement of the importance of the project in terms of the utility of the outcomes and the target community of beneficiaries.

Roles of Participants

For multi-organizational or multi-investigator projects, describe the roles and the work to be performed by each participant/investigator, business agreements between the applicant and participants, and how the various efforts will be integrated and managed.

Multiple Principal Investigators

The applicant, whether a single organization or team/partnership/consortium, must indicate if the project will include multiple PIs. This decision is solely the responsibility of the applicant. If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction;
- Publications;
- Intellectual property issues;
- Communication plans;
- Procedures for resolving conflicts; and
- PIs' roles and administrative, technical, and scientific responsibilities for the project.

Facilities and Other Resources

Identify the facilities (e.g., office, laboratory, computer, etc.) to be used at each performance site listed and, if appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Provide any information describing the other resources available to the project such as machine and electronics shops.

Equipment

List important items of equipment already available for this project and, if appropriate, note the location and pertinent capabilities of each. If you are proposing to acquire equipment, describe comparable equipment, if any, already at your organization and explain why it cannot be used.

Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers

(not included in page limit)

Provide the following information in this section:

1. Collaborators and Co-editors: List in alphabetical order all persons, including their current organizational affiliation, who are, or who have been, collaborators or co-authors with you on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of this application. Also, list any individuals who are currently, or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding the submission of this application. If there are no collaborators or co-editors to report, state "None."
2. Graduate and Postdoctoral Advisors and Advisees: List the names and current organizational affiliations of your graduate advisor(s) and principal postdoctoral sponsor(s) during the last 5 years. Also, list the names and current organizational affiliations of your graduate students and postdoctoral associates.

Bibliography

(not included in page limit)

If applicable: Provide a bibliography for any references cited in the Project Narrative section. This section must include only bibliographic citations.