



Call for Advanced Technology Concept Papers

Proposals Due: April 26, 2024, by 3:00 p.m. Eastern Time

The Advanced Technology Working Group (ATWG) seeks concept papers for innovative and commercially viable grid-enhancing technologies that can contribute to improving and modernizing the New York electricity grid.

Background

The ATWG is a working group established following an Order on Power Grid Study Recommendations (20-E-0197) issued by the New York Public Service Commission on January 20, 2022. The goal of the ATWG is to help ensure that the electric transmission and distribution systems in New York can support the achievement of Climate Leadership and Community Protection Act (CLCPA) goals and to ensure that the necessary policies, procedures, and standards exist to address technical, process, regulatory, and economic concerns related to modern and innovative technologies. To this end, the ATWG works to accelerate the deployment of new and underutilized transmission and distribution (T&D) technologies and to foster innovation to improve the functionality and cost-effectiveness of emerging or advanced technologies. This solicitation is an extension of this effort, and the ATWG will file its initial assessment of the concept paper submissions within 60 days of the Spring Technical Conference set to take place on May 2, 2024.

Scope

This call is specifically targeted towards:

- technologies not already under consideration by the ATWG. The ATWG already has task forces dedicated to Dynamic Line Rating, Power Flow Control, and Energy Storage.
- technologies with a demonstrable deployment record in New York or other U.S. jurisdictions.
- technologies for which a reasonable amount of cost data exists.

Technologies should provide functionality to:

- alleviate T&D system bottlenecks to allow for better deliverability of renewable energy.
- unbundle constrained resources to allow more renewable electricity imports and reduce system congestion.
- optimize the utilization of existing transmission capacity and rights-of-way.
- increase circuit load factor.

Development and deployment of technologies should:

- enhance the reliability, security, and efficiency of the New York electricity grid.
- facilitate the integration of clean and renewable energy sources.
- reduce costs for consumers and stakeholders.
- advance the state-of-the-art in grid technology and innovation.

We invite ideas from:

- technology developers and vendors.
- research institutions.
- universities and academic institutions.
- consulting firms and other industry experts.

Submission Requirements

Submissions should address the following.

1. **Description:** Provide a detailed description of the proposed technology or solution, including its technical specifications and functionality. The description should identify the use cases and potential grid services the technology or solution could provide. Standard metrics for grid services such as MW and MVAR are encouraged. Finally, the description should also address technology maturity, deployment readiness, and potential challenges for deployment in New York.
2. **Deployment Experience:** Demonstrate the technology's deployment record in New York or other U.S. jurisdictions. Include details on the location, project size, cost, and performance data (if available).
3. **Potential Deployment Timeline:** Outline a preliminary plan for implementing the technology within the New York grid, including potential timelines, partnerships, and regulatory considerations.
4. **Cost Data:** Provide a typical cost range that facilitates solution comparison, preferably in \$/MW or \$/MW-yr. The range should reflect installed cost (capital) and annual operations and maintenance (O&M) costs. We recognize that some advanced technologies may be in a nascent state of development and deployment, making cost estimation challenging. Furthermore, some innovative technologies may have shorter economic lives than traditional solutions. However, this information is crucial for assessing a technology's potential to help meet the State's CLCPA goals.
5. **Potential Benefits:** Describe and quantify the technology's potential benefits for the New York electricity grid, including its impact on reliability, efficiency, renewable energy integration, cost reduction, and other relevant factors.

Review Criteria

Submissions will be reviewed based on the following screening criteria:

- Alignment with the stated scope.
- Technical feasibility of the proposed technology.
- Commercial maturity and the technology's ability to be deployed in New York. The ATWG focuses on technologies with a Technology Readiness Level of 5 or greater.
- Demonstrated record of deployment with performance data.
- Availability and transparency of cost information.

Parties may be invited to discuss their proposals in more detail with the ATWG.

Concept Paper Template

The Concept Paper Template in Attachment A should be used to prepare Concept Paper submissions.

Submission Deadline

Submissions must be made electronically to ATWG@ceadvisors.com by **April 26, 2024, at 3:00 p.m. ET.**

Questions

All questions about this Call for Advanced Technology Concept Papers should be directed to ATWG@ceadvisors.com.

CONCEPT PAPER TEMPLATE INSTRUCTIONS

CONTENT REQUIREMENTS:

- (1) The Concept Paper template below should be used to prepare Concept Papers.
- (2) Applicants should review their Concept Paper prior to submitting the proposal to ensure its accuracy.
- (3) Confidential, proprietary, or privileged information should be indicated by including the following in the footer of every page: “Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure.” In addition, every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.
- (4) Delete these template instructions before submitting Concept Papers.

FORMAT REQUIREMENTS:

- (1) Concept Papers must be submitted in Adobe PDF format, be written in English, use black 11-point Times New Roman font, use 8.5 inch by 11 inch paper, be single-spaced, and have margins no less than 1 inch.

Concept Papers, including graphics, figures, and tables, shall not exceed four (4) pages in length.

Attachment A – Concept Paper Template

PROJECT TITLE (250 characters or less)

Principal Contact, Lead Organization, Address, City, State, Zip, Email

1. OVERVIEW

Summary	Write a summary (1-3 sentences) that describes the proposed technology or concept and its potential impact on improving and modernizing the New York electricity grid. Include an assessment of the technology maturity, preferably using the Technology Readiness Level (TRL) scale.
Deployment Experience	Provide the technology's deployment record in New York or other U.S. jurisdictions. Include details on the location, project size, and performance data (if available).
Potential Deployment Timeline	Provide a preliminary plan for implementing the technology within the New York grid, including potential timelines (in months), project phases, partnerships, and regulatory considerations.
Cost Data	Provide a typical cost range that facilitates solution comparison, preferably in \$/MW or \$/MW-yr. The range should reflect installed cost (capital) and annual operations and maintenance (O&M) costs.
Potential Benefits	Describe and quantify the technology's potential benefits for the New York electricity grid, including its impact on reliability, efficiency, renewable energy integration, cost reduction, and other relevant factors.

2. CONCEPT – limited to 4 pages, no attachments, following this suggested outline

II. Description

Describe the grid modernization problem and proposed technology or solution.

- What grid need or opportunity is the proposed technology addressing?
- How significant is this need or opportunity to New York State?
- How does the proposed technology address the need or opportunity, and in what ways is it a clear advancement over existing or competitive solutions?
- What are the technical specifications, functionality, and use cases?
- How mature is the proposed technology? Is it technically and commercially viable? If possible, please provide an assessment of the technology maturity using the TRL scale.

- Is the proposed technology leveraging existing federal / state research priorities and funding? If so, please provide relevant details.
- In what ways does the proposed technology or solution align with the scope stated in the Call for Advanced Technology Concept Papers?

III. Deployment Experience

Provide the technology's deployment record in New York or other U.S. jurisdictions

- Has the proposed technology been deployed in the state of New York or other U.S. jurisdictions?
- If so, please provide details on the location, project size, cost, and performance data (if available), and an overall assessment of the project results.

IV. Potential Deployment Timeline

Provide an outline for implementing the technology within the New York grid.

- How long will it take to bring the technology into service within New York (in months), starting from conception to deployment?
- What is the estimated useful life of the proposed technology?
- What are the steps needed to decommission the technology/project?
- Identify the stakeholders who may be involved during the deployment of the proposed technology. Do any partnerships need to be formed? Does the project need to interface with the grid operator, government agencies, or other authorities?
- What are the regulatory considerations associated with deploying the proposed technology?
- Please provide a potential deployment timeline that includes the phases and duration associated with the project (e.g., Project conception and planning, regulatory approval and permitting, construction and implementation, operation and maintenance, decommissioning, etc.)
- How widely and rapidly can the proposed technology be deployed in New York and globally?

V. Cost Data

Provide a typical cost range that facilitates solution comparison.

- What is the typical range for the capital costs and annual operations and maintenance (O&M) costs of the proposed technology, preferably in \$/MW or \$/MW-year?
- How will these cost ranges change over time?

VI. Potential Benefits

Describe the potential benefits and impacts for the New York electricity grid.

- How does deployment of the proposed technology support the Climate Leadership and Community Protection Act (CLCPA) goals and grid modernization in the state of New York?
- How can the proposed technology improve grid reliability, energy efficiency, renewable energy integration, and environmental protection, reduce costs, and contribute to economic growth in New York? How significant are these impacts?