



U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Switched Source, LLC -- Scaling Up Cost-Effective Grid Modernization

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): CA; CO; GA; IL; IN; ME; NJ; PA; NY; OH; TX

Proposed Action Description:

Funding will support the project team's research and development activities for researching and testing Switched Source's medium-voltage power flow control technology embodied in its "Tie Controller" (TC) and the "Phase-EQ" (PEQ) devices. The devices enable utilities to re-route power to more effectively utilize the existing capacity of grid infrastructure. Specifically, the project team will (1) research and assemble prototype Tie Controller and Phase-EQ devices with supply chain partners; (2) test the performance benefits of the technology in real-world operating environments, for specific use cases; and (3) collect and translate data from tests to measure avoided costs, increased reliability, and resiliency. If successful, the project team's distribution automation equipment for electric utilities will improve efficiency, increase distributed generation (rooftop solar, wind energy, etc.) hosting capacity by 50%, and reduce system load imbalance by >10%.

Project activities will be conducted at existing facilities listed in Attachment A, designed for the applicable activities. Project tasks will be conducted in accordance with established safety and materials/waste management protocols and pursuant to applicable Federal, State, and local regulatory requirements. No modifications will be made to existing facilities to accommodate the proposed work. Under the terms of its ARPA-E Cooperative Agreement, Switched Source, LLC is prohibited from commencing applicable project work before (1) obtaining the necessary permits and approvals and (2) providing written assurances to ARPA-E of the same.)

Categorical Exclusion(s) Applied:

- B1.7 - Electronic equipment
- B3.11 - Outdoor tests and experiments on materials and equipment components
- B4.4 - Power marketing services and activities
- B4.6 - Additions and modifications to transmission facilities
- B5.1 - Actions to conserve energy or water

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of [10 CFR Part 1021](#).

Regulatory Requirements in 10 CFR 1021.410(b): (See full text in regulation)

The proposal fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D.

To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.

The proposal has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer: William Bierbower (Approved via Email) Date Determined: June 10, 2021

(This form will be locked for editing upon signature)

Attachment A: Project Locations (Switched Source, LLC -- Scaling Up Cost-Effective Grid Modernization)

Project Team Member	Location
Switched Source LLC	Vestal, NY; Chicago, IL; Pittsburgh, PA; Savannah, GA
PC Krause and Associates	Indianapolis, IN
Stanton Cady	Chicago, IL
Alvee Dass Technologies	Chicago, IL
RLC Engineering	Hallowell, ME
American Free Enterprises	Chicago, IL
In-Twin-Itty Design Consultants	Long Valley, NJ
Electric Power Research Institute (EPRI)	Palo Alto, CA
NREL	Boulder, CO
StreamDSP LLC	Columbus, OH
CH3 LLC	Austin, TX
Gilberto Hernandez	Austin, TX