



U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Support Grants for Participation in ARPA-E Grid Optimization (GO) Competition Challenge 3 (FOA No. DE-FOA-0002690)

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): CA, CO, FL, GA, IL, MA, MI, MS, NY, PA, TN, TX, WA

Proposed Action Description:

The Support Grants for Participation in ARPA-E's Grid Optimization (GO) Competition Challenge 3 FOA seeks to fund research and development of algorithms that will be used by awardees to compete in Challenge 3 of the Grid Optimization (GO) Competition ("Challenge 3"). Awardees under this FOA will be required to participate in Challenge 3 as a condition of receiving the award. Challenge 3 of the Competition is an algorithm competition focused on the optimal power flow (OPF) problem for the electric power sector that includes AC (alternating current) power flow, optimal topology, bid-in demand, unit commitment, and reliability. This FOA has enabled ARPA-E to target a much broader audience (e.g., those specialized operations research, applied mathematics, optimization methods and algorithms, controls, etc.) for participation in Challenge 3.

The FOA is composed of 10 small-scale projects conducted by universities, non-profit entities, for-profit entities, and federal laboratories. All 10 projects (listed in Attachment A) are covered by this Determination and are limited exclusively to intellectual, academic, or analytical activities. The project teams will not conduct physical experiments, prototype fabrication, demonstration projects, or similar activities under these awards. No modifications will be made to any facilities to accommodate the proposed project work.

Categorical Exclusion(s) Applied:

A9 - Information gathering, analysis, and dissemination



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: **GEOFFREY GOODE** Digitally signed by GEOFFREY GOODE
Date: 2022.08.05 14:26:36 -04'00'

Date Determined:

Attachment A: Support Grants for Participation in ARPA-E Grid Optimization (GO) Competition Challenge 3 (FOA No. DE-FOA-0002690)

Full Application Control Number	Lead Organization	Project Title	Categorical Exclusion
2690-1508	University of Florida	Computational Algorithms for Unit Commitment with AC Power Flows	A9
2690-1509	University of Texas at Austin	Fast and robust strategies for large-scale mixed-integer SCOPF	A9
2690-1511	University of Tennessee: Knoxville	Scalable Unit Commitment with Security Constrained AC Power Flow via ADMM and Hybrid Modeling Strategies	A9
2690-1514	Columbia University	Solving Multiperiod SCOPF Problems Via Nonlinear Optimization	A9
2690-1515	Massachusetts Institute of Technology	Alternating Direction Decomposition with Strong Bounding and Convexification (ADD-SBC) for Solving Security Constrained AC Unit Commitment Problems	A9
2690-1518	Mississippi State University	Intelligent Partitioning based Fully Parallel AC Security-Constrained Optimal Power Flow (pSCOPF)	A9
2690-1521	University of Pittsburgh	Tightest mixed-integer programming formulations for quadratic SCUC optimization	A9
2690-1523	Global Optimal Technology, Inc.	Robust and High-Performance Nonlinear Security-constrained Multi-Period Resource Commitment and Optimal Power Flow	A9
2690-1524	Lawrence Livermore National Laboratory	LLGoMax: Enhancing Industry-Standard Tools for AC Optimal Unit Commitment	A9
2690-1525	Incremental Systems Corporation	Cognitive Grid Optimization	A9