



U.S. Department of Energy

Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Georgia Tech Research Corporation - High-Fidelity, Large-scale, Realistic Dataset Development

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Atlanta, GA

Proposed Action Description:

AMENDED NEPA DETERMINATION: (See attached original Determination, dated April 9, 2019)

This Amended Determination follows the approval of additional funds to support the project team's information gathering and analysis efforts to generate large-scale, high-fidelity datasets that are publicly releasable using techniques developed under its GRID DATA funding and conform to technical/mathematical requirements of the Grid Optimization (GO) competition. Specifically, the project team will (1) research and establish dataset conventions and format document for the GO competition and (2) upconvert multiple scenarios from each of its Challenge 2 networks to temporal models. If successful, the team will provide foundational information for the GO Competition, the goals of which include a new paradigm for the testing and evaluation of emerging grid optimization algorithms.

Project activities will be conducted at existing facilities in Atlanta, Georgia designed for the applicable activities. Project tasks continue to fit within the class of actions identified under the DOE Categorical Exclusion identified below; the proposed project activities under this award are limited exclusively to intellectual, academic, or analytical activities. The project team will not conduct physical experiments, prototype fabrication, demonstration projects, or similar activities under this award.

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: 2022.01.24 05:32:21 -05'00'

Date Determined:



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Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Atlanta, GA

Proposed Action Description:

Funding will support the project team's information gathering and analysis efforts to develop, convert, and validate high-fidelity, large-scale transmission network models that are formatted to readily accommodate and advance security-constrained power flow (SCOPF) research. Specifically, the project team will: (1) develop scenarios (test cases) that span multiple network models containing datasets with specified elements; (2) use the conversion tools it has developed under its GRID DATA project to convert datasets in order to make them more complex and difficult to solve; and (3) validate all datasets to ensure both feasibility and realism, thereby producing quality, trusted models that will become the standard for SCOPF research. If successful, the datasets and corresponding scenarios produced will be used in Challenge 2 of the ARPA-E GO Competition; then released to the public as a resource of large-scale, highly detailed, realistic models which will challenge power systems researchers to develop innovative and transformative SCOPF algorithms.

The proposed project activities under this award are limited exclusively to intellectual, academic, or analytical activities. The project team will not conduct physical experiments, prototype fabrication, demonstration projects, or similar activities under this award.

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:

Date Determined: 04/09/2019