



U.S. Department of Energy Categorical Exclusion Determination Form

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Proposed Action Title: University of Wisconsin-Madison (Wisconsin) - EPIGRIDS: Electric Power Infrastructure & Grid Representations in Interoperable Data Sets

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Madison, WI; Argonne, IL; Oakbrook Terrace, IL; and Washington, DC

Proposed Action Description:

Funding will support development and testing of transmission system models and scenarios that will serve as test cases for the development and adoption of new grid optimization and control technologies. The team aims to create a synthetic system that will construct realistic grid models by using software to emulate the transmission and generation decision processes used by utility operators. This synthetic model will utilize Geographic Information Systems (GIS) data on population density, industrial and commercial energy consumption patterns, and land use, over geographic footprints ranging from city to continental scale. The system will allow for tailoring specific data sets and scenarios to address particular challenges of developing optimization and control algorithms and will create models with challenging scenarios to test the robustness of grid solutions. If successful, this project could provide a means of comprehensively evaluating emerging electric grid operation optimization algorithms that have the potential to substantially reduce the costs of integrating variable renewable generation technologies into the electric power system in the United States.

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. Project activities will take place in Wisconsin's, Argonne National Laboratory's, Alstrom Grid's, Commonwealth Edison's, and GAMS Development Corporation's office facilities located in Madison, WI; Argonne, IL; Oakbrook Terrace, IL; and Washington, DC, respectively

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: 03/17/2016

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