



U.S. Department of Energy Categorical Exclusion Determination Form

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Proposed Action Title: Pacific Northwest National Laboratory -- Autonomous Intelligent Assistant (AutonomIA): Resilient and Energy-Efficient City-wide Transportation Operations

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Richland, WA; Beaverton, OR; Berkeley, CA New York, NY; Austin, TX; Coral Gables, FL

Proposed Action Description:

Funding will support the project team's small-scale research and development of an Autonomous Intelligent Assistant (AutonomIA) by combining artificial intelligence with multiscale simulation and real-time control to reduce congestion, improve energy efficiency, and reduce carbon dioxide (CO2) emissions across regional transportation systems. Specifically, the project team will (1) gather traffic data for use in models and simulations, (2) test simulation models and develop scale-up models, (3) integrate with the city platform for full-system level demonstration, and (4) finalize the AutonomIA system. If successful, this project will result in the AutonomIA system which would improve energy efficiency by more than 20% and reduce CO2 emissions by at least 20%.

Project activities will be conducted at existing facilities at Pacific Northwest National Laboratory (PNNL) (Richland, WA), Traffic Technology Services Inc. (Beaverton, OR), University of California Berkeley (Berkeley, CA), Aimsun Inc. (New York, NY), and Yunex LLC (Austin, TX) designed for the applicable activities. Field testing will be conducted in the City of Coral Gables (Coral Gables, FL). The Prime Recipient has certified that (a) 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, and (b) no modifications will be made to existing facilities to accommodate the proposed work. PNNL has not obtained all necessary permits and approvals applicable to proposed actions and is prohibited from commencing project work under Milestones 7.1 to 7.3. Per the terms of the award, a permits certification and, if necessary, an amended NEPA Determination, are required prior to the conduct of applicable project work

Categorical Exclusion(s) Applied:

B3.6 - Small-scale research and development, laboratory operations, and pilot projects

B3.11 - Outdoor tests and experiments on materials and equipment components

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:

Approved via email

Date Determined: 09/01/2022

(This form will be locked for editing upon signature)