



U.S. Department of Energy Categorical Exclusion Determination Form

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Proposed Action Title: Saving Energy Nationwide in Structures with Occupancy Recognition (SENSOR) (FOA No. DE-FOA-0001737) & SENSOR SBIR/STTR (FOA No. DE-FOA-0001738) Programs

Program or Field Office: Advanced Research Projects Agency - Energy (ARPA-E)

Location(s) (City/County/State): AL, CA, CO, CT, IA, IN, MA, MD, MN, MT, NC, NJ, NM, NY, PA, TN, TX, WA, WI

Proposed Action Description:

AMENDED NEPA DETERMINATION (See attached for the original Determination, dated April 2, 2018)
This Amended Determination follows a change in Prime Recipient for Control No. 1737-1539 from SUNY at Stony Brook to Texas A&M University. The Principal Investigator for this project at SUNY at Stony Brook accepted a new position of employment at Texas A&M University.

With the new Prime Recipient, this project continues to fit within the class of actions identified under the DOE Categorical Exclusion(s) identified below and does not involve any extraordinary circumstances that may affect the significance of the environmental effects of the project. This assessment was based on a review of the proposed scope of work and the potential environmental impact of the project. 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 the existing facilities to accommodate the proposed work.

Categorical Exclusion(s) Applied:

- A9 - Information gathering, analysis, and dissemination
- B3.6 - Small-scale research and development, laboratory operations, and pilot projects

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: 08/06/2018

Attachment A: Projects in the SENSOR (FOA No. DE-FOA-0001737) & SENSOR SBIR/STTR (FOA No. DE-FOA-0001738) Programs

Prime Recipient (Control No.)	Project Title	Categorical Exclusion
Boston University (1737-1527)	Scalable, Dual-Mode Occupancy Sensing for Commercial Venues	B3.6
Cornell University (1737-1514)	Indoor Occupant Counting and CO2 Monitoring Based on RF Backscattering	B3.6
Duke University (1737-1583)	Detecting Human Presence Using Dynamic Metasurface Antennas	B3.6
Endeveo, Inc. (1738-1519)	Hotspot Enable Accurate Determination of Common Area Occupancy Using Network Tools (HEADCOUNT)	B3.6
Iowa State University (1737-1524)	Simulation, Challenge Testing & Validation of Occupancy Recognition & CO2 Technologies	A9; B3.6
Matrix Sensors, Inc. (1738-1540)	A Stable, Low Cost, Low Power CO2 Sensor for Demand Controlled Ventilation	B3.6
N5 Sensors, Inc. (1738-1524)	A Digital System-On-Chip CO2 Sensor	B3.6
Purdue University (1737-1556)	Building-Integrated Microscale Sensors for CO ₂ -Level Monitoring	B3.6
Rensselaer Polytechnic Institute (1737-1536)	Integrated Spatial, Spectral and Temporal Optical Reflectance System for Precision Occupancy and Location Sensing to Improve Building Energy Efficiency	B3.6
Scanalytics, Inc. (1738-1514)	Floor Sensors for Occupancy Counting in Commercial Buildings	B3.6
Texas A&M University (1737-1539)	SLEEPIR – Synchronized, Low-energy, Electronically-chopped PIR Sensor for Occupancy Detection	A9; B3.6
Syracuse University (1737-1570)	MicroCam: A Low Power and Privacy Preserving Multi-Modal Platform for Occupancy Detection and Counting	B3.6

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Prime Recipient (Control No.)	Project Title	Categorical Exclusion
University of Colorado – Boulder (1737-1528)	Battery-Free RFID Sensor Network and Spatiotemporal Pattern Network Based Data Fusion System for Human Presence Sensing	B3.6
University of Alabama (1737-1529)	Quantification of HVAC Energy Savings for Occupancy Sensing in Buildings through An Innovative Testing Methodology	A9; B3.6
United Technologies Research Center (1737-1501)	PEOPLE: Platform to Estimate Occupancy and Presence for Low Energy buildings (P.400.0506)	B3.6