



U.S. Department of Energy

Categorical Exclusion Determination Form

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

Project Title: 25A2034 - Lightweight Thermal Energy Recovery (LightTER) System

Location: *- Multiple States - Michigan, California

Proposed Action or Project Description:

American Recovery and Reinvestment Act:

Our concept is an SMA heat engine that incorporates recent, major advances in shape memory alloys (SMA) with new integration methods and mechanical designs. It is transformational in that it moves SMA heat engine technology from a scientific curiosity to a practical system for mass efficient energy harvesting from waste heat. By the end of the project, we will have demonstrated the enabling features of the concept and reached TRL 4. Successful completion will enhance confidence in further development and commercialization of the technology. This energy harvesting system can be applied to non-vehicle heat sources, such as domestic and industrial waste heat, and terrestrial heat sources. Given agreements already in place between the participating organizations in this project, GM will have the ability to move rapidly forward with commercial integration of this transformational technology into the vehicle and licensing to other energy sectors.

Categorical Exclusion(s) Applied:

X - B3.6 Siting/construction/operation/decommissioning of facilities for bench-scale research, conventional laboratory operations, small-scale research and development and pilot projects

*-For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, see Subpart D of 10 CFR10 21 [Click Here](#)

This action would not: threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders; require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities; disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; or adversely affect environmentally sensitive resources (including but not limited to those listed in paragraph B.(4)) of Appendix B to Subpart D of 10 CFR 1021). Furthermore, there are no extraordinary circumstances related to this action that may affect the significance of the environmental effects of the action; this action is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

Based on my review of information conveyed to me and in my possession (or attached) concerning 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: /s/ William J. Bierbower

Digitally signed by William J. Bierbower
 DN: cn=William J. Bierbower, o, ou,
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 Date: 2009.12.15 17:22:23 -05'00'

Date Determined: 12/15/2009

Comments:

Webmaster:

