



U.S. Department of Energy

Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Virginia Polytechnic Institute and State University- Power Supply on a Chip

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Blacksburg, VA; Hampton, NJ; Milpitas, CA

Proposed Action Description:

Funding will support efforts to develop a manufacturable converter utilizing dual phase inductors that achieves DC flux cancellation by integrating VPI's integrated magnetic material and Enpirion's silicon devices.

Proposed work will consist of: (1) design, development, and characterization of sample baseline inductors; (2) design and development of device packaging; and (3) performance of electrical and reliability testing on the developed device to ensure it meets established performance objectives.

Design, development, and characterization of the sample baseline inductors will take place at Virginia Polytechnic Institute and State University's facility in Blacksburg, VA. All other project work will take place at Enpirion Inc.'s laboratory facilities in Hampton, NJ and Milpitas, CA.

Categorical Exclusion(s) Applied:

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: 09/20/2012



U.S. Department of Energy Categorical Exclusion Determination Form



Program or Field Office: Advanced Research Projects Agency - Energy

Project Title: (0288-1564) Virginia Polytechnic Institute and State University - Power Supplies on a Chip

Location: *- Multiple States - Virginia; Delaware; California; Arizona; Texas

Proposed Action or Project Description:

American Recovery and Reinvestment Act:

Funding will support laboratory research, design, testing, and fabrication of a prototype power supply on a chip, a low-voltage, high-current point-of-load converter for powering the next generation of microprocessors, graphics cards, and all forms of communications electronic equipment. The proposed work is consistent with the goal of ADEPT: fundamental advances in soft magnetics, high voltage switches, and reliable, high-density charge storage.

Proposed work consists entirely of RD&D work to be completed in laboratory, manufacturing, and testing facilities located at the Center for Power Electronics Systems at Virginia Polytechnic Institute and State University (Blacksburg, VA); University of Delaware (Newark, DE); International Rectifier (El Segundo, CA; Newport, Wales, UK); and Freescale Semiconductors Inc. (Chandler, AZ; Austin TX). The work performed will be limited to on-site research, design, fabrication, testing, and evaluation.

Categorical Exclusion(s) Applied:

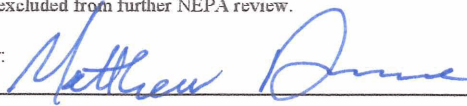
X - B3.6 Siting/construction/operation/decommissioning of facilities for bench-scale research, conventional laboratory operations, small-scale research and development and pilot projects

*-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:



Date Determined: Aug 12, 2010

Comments:

Webmaster: