



U.S. Department of Energy

Categorical Exclusion Determination Form

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

Project Title: 25A4083 - Shewanella as an Ideal Platform for Producing Hydrocarbon Biofuels

Location: Minnesota

Proposed Action or Project Description:

American Recovery and Reinvestment Act:

This project couples transformational systems biology and bioprocessing with biorefining technology to be performed by a team of biologists, chemists, engineers, and a biotechnology driven company, BioCee. The research uses Shewanella bacteria as a platform organism for high-volume hydrocarbon fuel-feedstock production. Shewanella strains have many properties that make them superior to organisms currently used in biotechnology and are ideally suited for hydrocarbon production. The Minnesota group will, in collaboration with scientists at the Pacific Northwest National Laboratory, develop a Shewanella- phototrophic co-culture that produces hydrocarbons from sunlight and carbon dioxide. Both carbon dioxide and biomass-derived carbon will be transformed continuously into hydrocarbons within a novel reactor system based on BioCee's thin-film coating technology. Bio- hydrocarbons will be converted into fuels by chemical catalytic processes.

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: 2010.01.19 10:57:42 -05'00'

Date Determined: 1/19/2010

Comments:

Webmaster:

