U.S. Department of Energy
Categorical Exclusion Determination Form

Program or Field Office:	Office of Energy Efficiency and Renewable Energy: Phase III Xlerator Program
Funding Opportunity Number	DE-FOA-0000397
Applicant Name:	Innovatek, Inc.
Location:	Richland, WA
Project Title	Power Generation from an integrated Biomass Reformer and Solid Oxide Fuel Cell

Proposed Action or Project Description — American Recovery and Reinvestment Act: ☐

To help meet America's needs for improved energy security and reduced environmental impacts, InnovaTek will demonstrate a power system for distributed energy generation from non-food renewable biomass sources using its proprietary steam reforming process with a solid oxide fuel cell in the Richland Renewable Energy Park. During Phase I, InnovaTek proved the feasibility of converting pyrolysis oil to hydrogen using its proprietary reforming catalyst. A conceptual system design and process model was developed to demonstrate that an integrated reformer and solid oxide fuel cell system is commercially viable for producing electricity from biomass. During Phase II, a scaled-up prototype system was designed, fabricated, and tested using sawdust derived pyrolysis oil as the fuel. The Phase III project will involve several system demonstrations starting in the laboratory and culminating in a field prototype system that produces up to 10kW of electricity for a City of Richland utility substation in the Richland Renewable Energy Park in Washington State. These demonstrations will provide economic and performance data to support commercialization. The integrated power system to be demonstrated during Phase III is a distributed generation product fueled by renewable sources that reduces the burden on the current electrical distribution system through greater availability of localized power generation. Replacing petroleum-based fuels with renewable non-toxic domestic biofuels enhances the security of our nation through reduced reliance on foreign sources of energy and significantly reduces environmental impacts compared to petroleum-based products and conventional combustion-based technologies. A transition to renewable energy systems will facilitate economic growth by reducing our dependence on oil from volatile regions, lowering our foreign trade balance, and diminishing the impact of oil price swings. Three public goals—environmental quality, especially the reduction of greenhouse gas emissions, energy reliability, and energy security—provide a compelling policy foundation for the proposed technology. Specific tasks in Phase III include: project management, analysis, and reporting; establish design requirements; develop system design; component fabrication and original equipment manufacturer part acquisition; system integration and assembly; develop and program a control and data acquisition system; test and evaluate 3 kW integrated fuel cell system; efficiency and emissions estimates; revise and optimize component and system design; analysis of process economics; determine field demonstration requirements; design and build prototypes for field demonstration; and conduct field demonstration of prototype fuel cell power plant.

Conditions: None

Categorical Exclusion(s) Applied: B3.6, B5.1

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*-For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, see Subpart D of 10 CFR10 21

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.

ORO NEPA Compliance Officer **James L. Elmore** Date Determined: 9/14/2010