RESOLUTION NUMBER:

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

WHEREAS, pursuant to Public Utilities Code Section 381 the State Energy Resources Conservation and Development Commission (Energy Commission) is authorized to establish and administer the Public Interest Energy Research Program (PIER); and

WHEREAS, the Energy Commission has recognized that California's electricity ratepayers benefit from energy research, development and demonstration (RD&D) activities conducted by individuals, small businesses, academics and small non-profit institutions; and

WHEREAS, the Energy Commission has created the Energy Innovations Small Grant Program within the PIER Program to provide funding for the aforementioned public interest RD&D activities; and

WHEREAS, the Energy Commission has designated the Trustees of the California State University (CSU) to serve as the Small Grant Program Administrator (under Inter-agency Agreement Number 500-98-014, Amendment 9) to solicit grant applications, recommend grant awards to the Energy Commission, and manage authorized grant projects; and

WHEREAS, CSU has now completed its twenty-fourth natural gas solicitation and has recommended for PIER funding the small grant projects listed in the "Notice of Proposed Grant Awards" attached to this Resolution; and

WHEREAS, the Energy Commission's RD&D Staff has reviewed and concurs with CSU's recommendations.

NOW THEREFORE BE IT RESOLVED THAT, the Energy Commission approves and authorizes PIER funding for the small grant projects listed in the attached "**Notice of Proposed Grant Awards, EISG Solicitation Cycle 14-01 Natural Gas.**"

The Energy Commission hereby directs the Program Administrator to execute grant agreements pursuant to the Inter-agency Agreement in this matter.

Dated: August 27, 2014

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

_____

Chairman

Notice of Proposed Grant Awards, Energy Innovations Small Grant Program (EISG) Solicitation Cycle 14-01 Natural Gas: $854,016

Natural Gas (14-01G)

i. West Biofuels, LLC., San Rafael, CA, *On-Site Agricultural Biomass Gasification as a Natural Gas Substitute*, Liao, Chang-hsien, $150,000. This project will determine the feasibility of using currently under-utilized agricultural biomass residues for conversion to synthetic gas to replace or blend with natural gas for direct, on-site industrial and agricultural use. If successful, this project will benefit California rate payers by providing a viable alternative to natural gas to help achieve environmental and energy sustainability goals.

ii. Physical Sciences Inc., Pleasanton, CA, *Natural Gas Leak Detection Sensor for Widely Deployable Networks*, Frish, Michael, $150,000. Natural gas leaks from pipeline infrastructure are potential safety risks as well as greenhouse gas sources. This project will determine the feasibility of developing miniature methane laser sensors to detect natural gas leaks in pipelines. The goal is to achieve low-cost mass production and low power consumption for widespread deployment at gas meters and other key locations within the natural gas pipeline infrastructure. If successful, this project will benefit California rate payers by decreasing the safety risks associated with natural gas leaks from gas pipelines.

iii. Palios Corporation, Santa Clara, CA, *Apparatus for In-Situ Determination of Gas Pipeline Yield Strength*, Stephanou, Phillip, $148,087. This project will determine the feasibility of using a novel ultrasonic measurement system to enable quick and cost effective non-destructive determination of the yield strength of undisturbed and in-place steel natural gas transmission pipelines in the field. If successful, this project will benefit California rate payers by improving public safety and reducing the cost and disruptions to service caused by intrusive measurements or unnecessary repairs.

iv. University of California, Davis, Davis, CA, *Energy-Efficient Clothes Dryers: Self-Calibrating Automatic Cycle Termination Controller*, Pistochini, Theresa, $129,614. This project will develop a low-cost, self-calibrating automatic controller that will reduce energy use in gas clothes dryers by 20% or more through accurately terminating the drying cycle when the remaining moisture content of the load is 2% or less. If successful, this project will benefit California rate payers by reducing the cost to operate clothes dryers.

v. University of California, Davis, Davis, CA, *Enrichment of Microbial Communities for Biogas Production in High-Solids*, Simmons, Christopher, $126,315. This project will enhance biorenewable methane production by improving anaerobic digestion through development and characterization of a microbial community adapted to high-solids conditions. This project targets seasonal food processing residues, and aims to facilitate the distribution and to accelerate the

adoption of anaerobic digestion in the food processing industry. If successful, this project will benefit California rate payers by increasing renewable biomethane production to offset fossil fuel use.

vi. Solar Stream Innovations, Chino Hills, CA, *Enhancing Winter Solar Water Heating and High Temperature Chiller Operation*, Lee, Jeffrey, $150,000. This project will determine the feasibility of fabricating a vacuum insulated manifold for retrofitting evacuated tube solar water heating collectors to increase winter water and space heating, and to generate high temperatures for efficient summer chiller operation. If this project is successful, the impact of the proposed project on California ratepayers will be to decrease natural gas peak demand during the winter for heating and during the summer for electricity generation.