

To: Office of Planning and Research
PO Box 3044, 1400 Tenth Street, Room 222
Sacramento, CA 95812-3044

From: California Energy Commission
1516 Ninth Street, MS-48
Sacramento, CA 95814

Project Title: Integrated Waste Heat and Wastewater Recovery DOME for Food Processing Applications

Project Location – Specific: 1051 S. Pacific Ave., Oxnard, CA

Project Location – City: Oxnard Project Location – County: Ventura

Description of Project:

GTI was awarded a \$400,000 grant under the Food Processing and Dairy Processing Grant solicitation (PON-08-007) competitive solicitation. The proposed research will develop and demonstrate the cost-effective and efficient DOME technology which is based on a concept of integrated waste heat and wastewater recovery, utilization and/or reuse in an optimal combination of processes. The DOME technology is a distillation vessel that uses waste heat to evaporate waste water from the associated process. The distillation vessel is designed so that the clean condensed water created by the vessel is drawn down by gravity and creates a slight vacuum in the vessel space behind it. This lowers the boiling point of the wastewater in the DOME device and improves the efficiency of the distillation process. DOME is the name of the process and is not an acronym.

The potential savings to the state with 100% market penetration of DOME are significant, totaling some 440 million gallons per year of clean water from state water supplies, 30 million therms of natural gas per year, and 185 million kWh of electricity. These savings will reduce pressures on the state utilities infrastructure and are expected to help keep water and energy costs from rising too quickly. There are also potential benefits in the decrease in air emissions from the reduction in demand for both natural gas and electricity. This leads directly to improved air quality and helping California meet the state's aggressive and progressive green house gas reduction targets. Assuming 100% DOME market penetration in California's Food and Dairy processing industries, carbon dioxide savings of 155,000 tons per year are expected. These savings are assumed to consist of a reduction of 95,000 tons of carbon dioxide per year from lower natural gas combustion and a reduction of 55,000 tons of carbon dioxide per year from lower electricity generation in 35% efficient gas turbines or power plants. NOx savings of 14 tons per year in California are expected along with the carbon dioxide reductions from decreased fuel combustion

Name of Public Agency Approving Project: California Energy Commission

Name of Person or Agency Carrying Out Project: Gas Technology Institute (GTI)

Exempt Status: *(check one)*

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number 14 CCR 15306
- Statutory Exemptions. State code number. _____
- Common Sense Exemption. 15061(b)(3)

Reasons why project is exempt:

Class 6 - Basic data collection, research, experimental management, and resource evaluation activities that do not result in major disturbances to an environmental resource.

Lead Agency

Contact Person: Richard Sapudar **Area code/Telephone/Ext:** 916-327-1450

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____ **Date:** _____ **Title:** _____

Signed by Lead Agency

Signed by Applicant

Date received for filing at OPR: _____