

To: Office of Planning and Research
PO Box 3044
1400 Tenth Street, Room 113
Sacramento, CA 95812-3044

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

Project Applicant: The Regents of the University of California on behalf of the Merced Campus

Project Title: Stirling cycle heat pumps for industrial heat recovery

Project Location – Specific: 5200 N. Lake Road (Campus address). Initial work will be at Sustainability Research and Engineering Building labs 354 and 324 and on the Science and Engineering Building 2 roof, but locations may change during the project.

Project Location – City: Merced 95343 Project Location – County: Merced

Description of Nature, Purpose and Beneficiaries of Project:

Under grant Agreement EPC-19-022, the California Energy Commission will provide a grant of \$656,630 to The Regents of the University of California, on behalf of the Merced Campus. Under the grant, UC Merced would develop an improved, high-temperature heat pump for industrial heat recovery applications, based on the Stirling cycle. The Stirling cycle is an efficient thermodynamic alternative to conventional vapor-compression technology. This project would also use fluid to act as pistons.

Beneficiaries of more efficient heat pumps will include industrial electricity customers, who will save energy and money. Beneficiaries of improved energy efficiency will also include California’s investor-owned electric utilities and their customers (i.e., ratepayers), along with the public at large and the environment.

Name of Public Agency Approving Project: California Energy Commission

Name of Person or Agency Carrying Out Project: The Regents of the University of California on behalf of the Merced Campus

Exempt Status: (check one)

- Ministerial Exemption (Pub. Resources Code § 21080(b)(1); Cal. Code Regs., tit 14, § 15268);
- Declared Emergency (Pub. Resources Code § 21080(b)(3); Cal. Code Regs., tit 14, § 15269(a));
- Emergency Project (Pub. Resources Code § 21080(b)(4); Cal. Code Regs., tit 14, § 15269(b)(c));
- Categorical Exemption. State type and section number
Cal. Code Regs., title 14, § 15306
- Statutory Exemptions. State code number.
- Common Sense Exemption. (Cal. Code Regs., tit 14, §15061(b)(3))

Reasons why project is exempt:

The grant project activities will occur in existing laboratories on the University of California, Merced Campus. Researchers will construct prototype heat pump(s) and gather data. The technology does not involve combustion. The heat transfer fluid does not have known toxic effects. It appears that the only known hazard of the heat transfer fluid is potential flammability. This risk is minor, and the laboratories are properly fitted with fire safety equipment.

Authority cited: Sections 21083 and 21110, Public Resources Code. Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.
The Regents of the University of California, Merced

None of the grant project activities would result in a serious or major disturbance to an environmental resource. Therefore, this project is exempt under California Code of Regulations, title 14, section 15306, Information Collection.

Lead Agency

Contact Person: Ilia Krupenich **Area code/Telephone/Ext:** 916-327-1648

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: Ilia Krupenich **Date:** 6/2/2020 **Title:** EGSS-I

Signed by Responsible Agency

Governor's Office of Planning & Research

Signed by Lead Agency

Jun 03 2020

Signed by Applicant

Date received for filing at OPR: STATE CLEARINGHOUSE