

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

1516 Ninth Street, MS-48
 Sacramento, CA 95814

Project Applicant: DOE- Lawrence Berkeley National Laboratory

Project Title: HP-Flex: Next Generation Heat Pump Load Flexibility

Project Location:

<u>Address</u>	<u>City</u>	<u>County</u>
One Cyclotron Road	Berkeley 94720	Alameda
1 HARPST ST	ARCATA 95521	Humboldt
900 Fallon St	Oakland 94607	Alameda
1600 W Imperial Hwy	Los Angeles 90047	Los Angeles
1100 North Eastern Ave.	Los Angeles 90063	Los Angeles

Description of Nature, Purpose and Beneficiaries of Project:

This project will develop and test an open-source building energy management system, called HP-Flex, that controls heat pump (HP) settings in small/medium commercial (SMC) buildings to provide load flexibility (LF) shape, shift, shed, and/or shimmy, while meeting occupant needs and minimizing operating cost. The system includes new optimization software and equipment interfaces that collectively optimize HP operation, while being extensible to manage equipment such as refrigeration, water heaters, batteries, and thermal storage.

Name of Public Agency Approving Project: California Energy Commission

Name of Person or Agency Carrying Out Project: DOE- Lawrence Berkeley National Laboratory

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., tit 14, § 15301
- Statutory Exemptions. State code number.
- Common Sense Exemption. (Cal. Code Regs., tit 14, §15061(b)(3))

Reasons why project is exempt:


This agreement's activities are exempt under 14 CCR section 15301, which consists of minor alterations to existing facilities with little or no expansion of use. This project will develop software to maximize the energy use of heat pumps, test it out, and develop education material to teach people how to use it. The research and development will be done in existing laboratory facilities and within the existing guidelines of those facilities. The demonstration phase will occur by installing the developed software and associated minor hardware into existing buildings. This will not change the use of the buildings. The education material will be developed in offices of existing educational facilities of higher learning. No unusual circumstances exist that would cause the activities under this agreement to have a significant effect on the environment.

Lead Agency

Contact Person: Brad Williams **Area code/Telephone/Ext:** 916-327-3312

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:** 08/18/2020 **Title:** Project Manager

Signed by Responsible Agency

Signed by Lead Agency

Signed by Applicant

Governor's Office of Planning & Research

Date received for filing at OPR: Aug 18 2020

STATE CLEARINGHOUSE