

Notice of Exemption**Form D**

To: Office of Planning and Research
P.O. 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 Berkeley campus

Project Title: Performance Based Earthquake Engineering Assessment Tool for Gas Storage and Transmission Systems

Project Location:

<u>Address</u>	<u>City</u>	<u>County</u>
<u>Offices:</u> (a) University of California, Berkeley Campus, Davis Hall	Berkeley, CA 94720	Alameda
(b) Civil Engineering Earthquake Research Laboratory, University of Nevada	Reno, NV 89557	Washoe
<u>Lab:</u> University of Reno, Earthquake Engineering Lab, 1664 N. Virginia Street	Reno, NV 89557	Washoe
<u>Field work:</u> Honor Rancho Facility, 25205 W. Rye Canyon Road (near Brady Parkway)	Valencia, CA 91355	Los Angeles
McDonald Island Facility, Zuckerman Road	Stockton, CA 95219	San Joaquin

Description of Nature, Purpose and Beneficiaries of Project:

Under grant Agreement PIR-18-003 with The Regents of the University of California (on behalf of the Berkeley campus), the California Energy Commission will provide a grant of \$4,940,158 to develop a performance-based earthquake engineering assessment tool for natural gas infrastructure. The tool will provide regulators and utilities with the ability to analyze seismic risks for natural gas infrastructure (i.e., storage facilities and pipelines) in California. The tool (called OpenSRA) will be an open-source computer application.

The grant project primarily consists of data gathering and analysis, computer modeling, and software development. The grant project activities will include (1) desk work, (2) lab work, and (3) field work. (1) In existing school and office buildings, researchers will analyze data, and design and code software. They will develop models, and evaluate analytical methods and algorithms to be incorporated into the tool. (2) In existing laboratories, researchers will test natural gas pipeline and storage equipment, sensors, and monitoring equipment. Some of this testing will include use of mechanical "shake tables" that simulate seismic activity. (3) Researchers will validate the tool through assessments at natural gas storage facilities and gas transmission pipelines. Assessments may rely on historical earthquake-related data (i.e., desk work) and on field tests and monitoring. Field work will include installing sensors (e.g., accelerometers and fiber optic sensors) at natural gas storage facilities and pipelines, using existing portals and chambers for access. Sensors may stay in place for up to a year. Field work will also include the use of the Multi-Channel Array Surface Wave (MASW) method. The MASW method consists of creating a ground motion wave with: (A) a vibration source (e.g., a bulldozer moving), or (B) 12 to 15 repetitions per site of an impact source (e.g., by hitting a metal plate on the ground surface with a sledge hammer or an accelerated 100 kilogram dropped weight). Researchers measure the resulting ground motion wave using geophones (a type of monitoring device) placed in arrays on the ground surface extending, for example, 100 meters away from the ground wave source. The field work would not involve excavation, but may include small holes in the ground to fix sensors in place. Typically, one truck and two to three installers are needed to deploy the equipment at a site. Researchers will use the collected data to validate the tool.

Beneficiaries will include California's natural gas utilities and their customers (i.e., ratepayers), along with the public at large and the environment. Beneficiaries will also include government agencies, such as the California Public Utilities Commission, that have public policy and oversight roles regarding natural gas infrastructure safety. The tool should help natural gas utilities and regulators prioritize capital investment and maintenance activities (i.e., retrofits and future infrastructure plans) to help make natural gas infrastructure safer and more reliable in the event of earthquake, by reducing the risk of failure. This could lead to less damage to persons, property, and the environment when earthquakes occur. Because natural gas is also used in gas-fired power plants, the project should help make the electrical system more reliable during earthquakes.

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 Berkeley 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., tit. 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 include: (1) desk work, (2) lab work, and (3) field work. (1) Desk work in existing, already occupied, school and office buildings would not cause a change in the physical environment. (2) The shake table testing, stress testing of natural gas pipes and equipment, sensor testing, etc., would not have environmental effects beyond the laboratory facility walls or property lines. (3) The data collection activities at or near natural gas storage facilities and pipelines would involve minimal noise, vibration, ground disturbance (small holes for sensors), and truck trips. The monitoring and sensors would not create any increased risk of natural gas-related fire or explosion.


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: Yahui Yang **Area code/Telephone/Ext:** 916-327-2224

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:** 5/30/2019 **Title:** Mechanical Engineer

- Signed by Responsible Agency
- Signed by Lead Agency
- Signed by Applicant

governor's Office of Planning & Research

MAY 30 2019

Date received for filing at OPR: STATE CLEARINGHOUSE