

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: Institute of Gas Technology dba Gas Technology Institute

Project Title: Sierra Northern Hydrogen Locomotive Project

Project Location – Specific: 3263-3235 Industrial Blvd

Project Location – City: West Sacramento 95691 **Project Location – County:** Yolo

Description of Nature, Purpose and Beneficiaries of Project:

The purpose of this project is to design and integrate a hydrogen fuel cell module, onboard hydrogen storage, and a battery module to collectively provide a zero-emission alternative to diesel switcher locomotives. The project will convert an existing diesel switcher locomotive to zero-emission hydrogen fuel cell operation. The project will demonstrate the hydrogen fuel cell switcher locomotive and analyze in-service performance data over six months with Sierra Northern Railway, a Class III short line railroad that serves the Port of West Sacramento.

Research, design, assembly, and data analysis for the hydrogen fuel cell locomotive will take place at existing laboratory and industrial sites. The demonstration activities involve using the hydrogen fuel cell locomotive in existing rail services conducted by Sierra Northern Railway. This agreement is intended to lead to ratepayer benefits including local and regional air quality improvements and greenhouse gas emission reductions by enabling hydrogen use in the rail sector.

Name of Public Agency Approving Project: California Energy Commission

Name of Person or Agency Carrying Out Project: Institute of Gas Technology dba Gas Technology Institute

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:

This project is exempt under Cal. Code Regs., tit. 14, Section 15306 because it primarily focuses on information collection efforts related to the design and use of a hydrogen switcher locomotive. Data collection and analysis on performance and energy usage parameters will be done within existing laboratory and industrial environments. The project demonstration location is a zoned industrial area with existing rail access.

Authority cited: Sections 21083 and 21110, Public Resources Code. Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.


The project includes on-rail locomotive demonstration activities for a hydrogen fuel cell switcher locomotive. This locomotive will be converted and assembled from an existing diesel switcher locomotive operated by Sierra Northern Railway. Federal Railroad Administration safety standards will be used to mitigate risks associated with building, testing, and demonstrating the locomotive. Project activities will not result in a serious or major disturbance to an environmental resource.

Lead Agency

Contact Person: Peter Chen **Area code/Telephone/Ext:** 916-766-0743

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:** 4/7/2021 **Title:** Mechanical Engineer

Signed by Responsible Agency

Signed by Lead Agency

Signed by Applicant

Date received for filing at OPR: _____