

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

From: California Energy Commission
 715 P Street
 Sacramento, CA 95814

Project Applicant: Tour Engine, Inc.

Project Title: A Novel IC Engine Fueled by H2/CH4 Blends with High-Efficiency and Ultra-Low NOx Emissions for Prime Power Distributed Generation

Project Location – Specific: 9889 Hibert St Ste E

Project Location – City: San Diego 92131

Project Location – County: San Diego

Description of Nature, Purpose and Beneficiaries of Project:

The project is a lab-scale demonstration of a 5kW split-cycle engine on an engine dynamometer and a pilot-scale demonstration using a micro combined heat and power (microCHP) system comprised of the 5-kW engine hybridized with a 15-kW battery. The demonstrations will use increasingly higher blends of hydrogen (exceeding 30 percent by volume) up to 100 percent, without compromising generation efficiencies and performance, to support meeting California's goals for carbon neutrality and improving public health and safety. The use of hydrogen results in lower carbon-based greenhouse gases and the split-cycle engine has the advantage of producing ultra-low engine-out NOx emissions. The NOx emissions will be further mitigated using a urea-free Lean NOx Trap integrated with the engine. Beneficiaries of the project include ratepayers in terms of economic and environmental gains from having greater power availability and resilience from this distributed generation system and diminished environmental impact from the lower produced emissions.

Name of Public Agency Approving Project: California Energy Commission

Name of Person or Agency Carrying Out Project: Tour Engine, Inc.

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 ; 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 California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) requires public agencies to consider the potential impacts to the environment that may arise from the approval of “projects.” The project here includes the lab-scale demonstration of a 5kW split-cycle engine on an engine dynamometer and a pilot-scale demonstration using a micro combined heat and power (microCHP) system comprised of the 5-kW engine hybridized with a 15-kW battery. Both the engine and the microCHP system will have an integrated emissions mitigation system to achieve low oxides of nitrogen (NOx) emissions. The project will be developed,

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

tested, and demonstrated at an existing research facility in San Diego Gas and Electric Co. service territory. The facility has been certified under the California Environmental Reporting System (CERS). This permitting covers the following: Business Activities, Business Owner/Operator Identification, Hazardous Material Inventory & Site Map, Emergency Response/Contingency Plan, as well as Employee Training Plan.

CEQA exempts certain projects from its provisions. One such exemption, found at California Code of Regulations, title 14, section 15301, provides that projects which consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, and which involve negligible or no expansion of use are exempt. The proposed project will be located entirely within an existing facility that has the ability to operate through 2027. The proposed project will not expand the use of the facility because the project activities to design, modify, fabricate, and test the engine and microCHP are in line with normal activities at the existing facility. Therefore, the project falls within section 15301 and will not have a significant effect on the environment.

CEQA also exempts projects that consist of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. (Cal. Code Regs., tit. 14, § 15306). The proposed project will involve research to operate on high blends of hydrogen, exceeding 30 percent by volume and going up to 100 percent, to maintain or increase the efficiency while mitigating greenhouse gas and NOx emissions. The use of hydrogen to displace some of the methane gas directly results in lower carbon-based greenhouse gases and the split-cycle engine has the advantage of producing ultra-low engine-out NOx emissions. The NOx emissions will be further mitigated using a urea-free Lean NOx Trap integrated with the engine. This work will not result in a serious or major disturbance to an environmental resource because the system is expected to perform for at least 500 hours producing low greenhouse gas and NOx emissions to demonstrate compliance with California Air Resources board (CARB) emissions by project conclusion, which is small in comparison to the overall facility footprint. For these reasons, the proposed project will have no significant effect on the environment and is categorically exempt under section 15306.

CEQA's exemptions are not absolute. Once a public agency, like the CEC, believes that a project may be exempt from environmental review, it must consider whether there are any exceptions that may preclude use of the exemption. The circumstances giving rise to an exception are listed in California Code of Regulations, title 14, section 15300.2. The proposed project does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project. Therefore, for the reasons stated above, this project is exemption from environmental review under CEQA.

Lead Agency

Contact Person: _____ **Area code/Telephone/Ext:** _____

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: W. Richards **Date:** 2/2/2024 **Title:** Mechanical Engineer

Signed by Responsible Agency

Signed by Lead Agency

Signed by Applicant

Date received for filing at OPR: _____