

**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:** RedoxBlox Inc.

**Project Title:** Thermochemical Energy Storage for Disadvantaged Communities

**Project Location – Specific:** 9413 Voigt Dr

**Project Location – City:** La Jolla 92093

**Project Location – County:** San Diego

**Description of Nature, Purpose and Beneficiaries of Project:**

A 10 MWh RedoxBlox thermochemical energy storage system will be installed on the University of California San Diego medical campus. The thermochemical storage system will discharge to a 100-kW turbogenerator to provide more than 24 hours of electrical output. The 200-kW waste heat exiting the turbine will enter an adsorption chiller to provide chilled water to the medical campus. The combined heat and power long-duration energy storage solution makes optimal utilization of the available stored energy. The thermochemical energy storage/CHP system will be demonstrated for at least 12 months during the project duration. The system will be left in place to serve the UCSD medical campus at project completion.

**Name of Public Agency Approving Project:** California Energy Commission

**Name of Person or Agency Carrying Out Project:** RedoxBlox 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));

**X** Categorical Exemption. State type and section number

Cal. Code Regs., tit. 14, § 15301 ; Cal. Code Regs., tit. 14, § 15303 ; Cal. Code Regs., tit. 14, § 15304; 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 University of California, San Diego Campus, Physical and Community Planning department, issued a CEQA Notice of Exemption for the project on September 20, 2023. The exemption was based on 14 C.C.R. § 15301, Existing Facilities. The equipment would be placed on existing, vacated concrete foundations previously occupied by a 2.8 MW molten carbonate fuel cell generating plant, which was decommissioned in 2023. The site was previously permitted for major electrical infrastructure and electricity generating equipment, and the proposed thermochemical energy storage (TCES) system coupled with a turbogenerator for electricity-to-electricity storage plus heat delivery, will reuse some of that electrical infrastructure to access the University’s 12 kV electrical

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

distribution system. In addition, a 100-ton adsorption chiller associated with the former generator remains onsite fully functional and permitted, and will be repurposed for the proposed thermal energy storage system operation.

In addition, Section 15303, Small Structures applies: This project consists of installation of a small structure. The combined heat and power (CHP) system will include a 10 MWh-th (3 MWh-e) RedoxBlox thermochemical energy storage vessel paired with a microturbine for a peak electrical output of 100 kW-e and 24 hours of storage located on the University of California at San Diego (UCSD) medical campus.

The equipment will be installed on two existing 14 x 16 feet concrete pads, labeled Module A and Module B. Each pad formerly supported a 52-ton fuel cell. The plan is to install the TCES vessel and Ansaldo turbogenerator on the Module A (~35 tons) pad and the balance of plant on the Module B pad. The highest dimension of the equipment is about 20 feet off the pad. These dimensions are in line with the various examples of exempt structures under Section 15303.

The turbine and generator do not rely on burning fossil gas. Rather, hot compressed air from the TCES will be delivered to the expander section of the gas turbine to generate electricity. Instead of using the combustion of a fossil fuel to provide the heat, RedoxBlox's system uses the zero-carbon oxidation reaction of its energy storage material. Thus, it appears there is no discretionary air pollution emissions permit needed.

Section 15304, Minor Alterations to Land applies: Within the established site, this project includes minor trenching and backfilling where the surface is restored, which do not involve removal of healthy, mature, scenic trees. There will be trenching for piping and other connections.

Cal. Code Regs., tit. 14, Section 15306 provides that projects which consist of basic data collection, research, experimental management, and resource evaluation activities, and which do not result in a serious or major disturbance to an environmental resource are categorically exempt from the provisions of the California Environmental Quality Act. This project involves demonstration and testing of the RedoxBlox TCES and related equipment.

For these reasons, the proposed project will have no significant effect on the environment and is categorically exempt under sections 15301, 15303, 15304, and 15306.

The project will not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies; 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, and this project will not have a significant effect on the environment.

**Lead Agency**

**Contact Person:** Zoe Higerson **Area code/Telephone/Ext:** 916-931-5128

**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:** 6/18/2024

**Title:** Utilities Engineer

**Signed by Responsible Agency**

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

RedoxBlox Inc.

**X Signed by Lead Agency**

**Signed by Applicant**

**Date received for filing at OPR:**