

DOCKETED

Docket Number:	01-AFC-07C
Project Title:	01-AFC-7C Russell City Energy Company
TN #:	242924
Document Title:	Order Adopting Staff Recommended Corrective Actions and Delegating Authority to the Executive Director
Description:	Order No: 22-0426-3
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Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	5/4/2022 7:16:11 AM
Docketed Date:	5/4/2022

STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

IN THE MATTER OF:

RUSSELL CITY ENERGY CENTER

Docket No. 01-AFC-07C

**ORDER ADOPTING STAFF RECOMMENDED
CORRECTIVE ACTIONS AND DELEGATING
AUTHORITY TO THE EXECUTIVE
DIRECTOR**

I. BACKGROUND

The Russell City Energy Center (RCEC) is a nominal 600 megawatt (MW) natural gas-fired, wet-cooled, combined-cycle electric generating facility that was initially certified by the California Energy Commission (CEC) in September 2002 and began commercial operation in August 2013.

On May 27, 2021, RCEC experienced a mechanical failure of the steam turbine generator that resulted in an explosion and fire (incident). The steam turbine generator experienced extensive damage. As a result, Russell City Energy Company, LLC (project owner) temporarily shut down RCEC and estimated that the time required for repairs necessary to resume combined-cycle mode operations would be approximately one year.

On June 3, 2021, the project owner filed a post-certification petition with the CEC to modify RCEC's license to allow the facility to temporarily operate in simple-cycle mode.

On July 15, 2021, the CEC voted to approve the project owner's petition for modifications to allow the facility to temporarily operate in simple-cycle mode, subject to certain limitations in the CEC's order. The CEC order found it was appropriate for the CEC to "exercise enhanced scrutiny over the facility" in light of the May 27, 2021 incident and that "it is reasonable for the public to have access to safety audits conducted pertaining to the operation of the facility, including the circumstances that gave rise to the petition."

Additionally, the order directed the project owner to meet with CEC staff and the Hayward City Fire Department within 30 days of the order "to discuss any needed modifications of [RCEC's] standard operating procedures for first responders to implement when responding to incidents on site, including establishing a process for reimbursement of reasonable expenses."

Finally, the CEC's order found that RCEC will "return to combined cycle operations when repairs and testing are completed." The order did not specify a schedule for completion of repairs and testing nor did it set a date by which modifications to the facility must be completed to resume combined-cycle operations. On June 7, 2021, the CEC staff conducted an initial inspection of the explosion and fire site and interviewed RCEC employees, first responders, and witnesses. In collaboration with the California Public Utilities Commission (CPUC), the CEC staff conducted an additional eleven site visits.

On November 24, 2021, the project owner submitted its Root Cause Analysis (RCA) of the May 27, 2021 turbine overspeed incident to the CEC staff and the CPUC. The project owner's RCA, completed by Structural Integrity Associates, found that the systems' inability to detect and drain excess water under pressure and at high temperature within the reheater system was the root cause of the Steam Turbine Generator (STG) drivetrain event at RCEC.

In January 2022, the CEC and the CPUC staff notified the project owner that they would be conducting a Joint Agency Investigation (JAI) and on-site inspection of RCEC on February 7 through 11, 2022. The purpose of the JAI was to investigate questions that were not answered in the project owner's RCA and evaluate the need for additional corrective actions. The on-site inspection was performed as planned, and the project owner provided requested documents prior to the on-site inspection and made employees available to be interviewed by the CEC and the CPUC staff.

On February 18, 2022, the CEC and the CPUC staff transmitted to the project owner a list of preliminary corrective actions necessary for the facility to safely return to combined-cycle operations. The list of corrective actions prepared by the JAI was intended to supplement the corrective actions identified in the project owner's RCA as necessary to resume combined-cycle operations. The project owner acknowledged receipt and provided responses indicating it would implement all of the CEC and the CPUC staffs' preliminary corrective actions before resuming combined-cycle operations.

On April 22, 2022, the CEC staff filed its investigation report, titled *Russell City Energy Center May 2021 Incident: Root Cause Gap Analysis* (Staff's Investigation Report), to the RCEC compliance docket. Staff's Investigation Report lists the activities and safety audits undertaken as part of the JAI since May 27, 2021, presents their independent determination of the root cause of the turbine overspeed event, and presents the nine remaining corrective actions that the JAI team determined must be implemented at RCEC for the facility to safely return to combined-cycle operations with a minimal risk of future turbine overspeed events due to water induction.

II. STAFF RECOMMENDATION

The CEC staff has concluded that, with the CEC's adoption of, and the project owner's completion of, all corrective actions identified in Chapter 4 of Staff's Investigation Report, the project owner can safely resume operating in combined-cycle mode while ensuring that the risk of a similar water induction incident occurring in the future is eliminated to the degree feasible by deploying robust redundant systems of prevention and detection.

Based on the foregoing, CEC staff recommends that the CEC specify that RCEC may return to combined-cycle operations only after all corrective actions identified in Chapter 4 of Staff's Root Cause Gap Analysis Report are completed and verified by CEC staff.

Consistent with the CEC's compliance verification regulations (Cal. Code Regs., tit. 20, § 1770), the CEC staff also recommends that the CEC delegate to the CEC's Executive Director authority to verify completion of all corrective actions identified in Chapter 4 of the CEC staff's Root Cause Gap Analysis Report prior to resuming combined-cycle operations. If this delegation is approved, the CEC's Executive Director will verify that all required repairs, testing, and corrective actions are completed before notifying RCEC that they may return to combined-cycle operations.

At this time, the CEC staff is not recommending changes to any conditions of certification for RCEC, as the facility will be operating within its existing license.

III. ENERGY COMMISSION FINDINGS

Based on the record, including CEC staff's Root Cause Gap Analysis Report and the April 21, 2022 Basis for CEQA Findings Memorandum, all required corrective actions, repairs, and testing must be completed by the project owner to ensure RCEC can safely return to combined-cycle operations. Upon verified completion of the stated corrections, repairs and testing, the temporary modifications to allow for operation in simple-cycle mode will no longer be necessary. As such, the CEC finds that:

- The corrective actions identified in Chapter 4 of Staff's Root Cause Gap Analysis Report are sufficient to enable RCEC to safely return to operations in combined-cycle mode. Implementation of the corrective actions will eliminate risk of recurrence of a similar water induction incident to the degree feasible, by deploying robust redundant systems of prevention and detection.
- The project owner will file status reports documenting implementation of the corrective actions and will provide verification of completion to the Executive Director prior to RCEC restarting combined-cycle commercial operations.
- The facility's operation in combined-cycle mode is within the existing license.

- Adoption of the corrective actions and delegation to the Executive Director are not projects under CEQA because they will not result in a direct or reasonably foreseeable indirect physical change in the environment. (Cal. Code Regs., tit. 14, §§ 15060(c)(2)-(3) and 15378(a) & (b)(5).) In addition, the Class 1, Class 2, and Class 21 exemptions (Cal. Code Regs., tit. 14, §§ 15301, 15302 and 15321; see also 15061(b)(2)), and the common-sense exemption also apply. (Cal. Code Regs., tit. 14, § 15061(b)(3).)

IV. CONCLUSION AND ORDER

The CEC hereby adopts the corrective actions identified in Chapter 4 of CEC Staff's Root Cause Gap Analysis Report and orders their completion by RCEC's project owner prior to returning to combined-cycle operations.

The CEC hereby orders the project owner to file via the CEC docket system, bi-weekly compliance reports outlining the progress made towards completion of the identified corrective actions. Compliance reports shall be filed by close of business starting on Friday, May 6, 2022, and continuing every two weeks thereafter until combined-cycle operations resume.

The CEC hereby delegates the authority and directs the CEC's Executive Director to verify that the corrective actions have been completed at RCEC and to issue notice to RCEC when the facility may resume combined-cycle operations.

IT IS SO ORDERED.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the CEC held on April 26, 2022.

AYE: Hochschild, Gunda, McAllister, Monahan, Vaccaro

NAY:

ABSENT:

ABSTAIN:



Liza Lopez
Secretariat