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*Comment Received From: Robert Sarvey  
Submitted On: 7/2/2021  
Docket Number: 01-AFC-07C*

**Robert Sarvey's Testimony Opposing the RCEC Amendment  
Approval by CEC Staff.**

*Additional submitted attachment is included below.*

State of California  
State Energy Resources Conservation and Development Commission

In the matter of:

Russell City Energy Center

Docket 01-AFC-7

Robert Sarvey's Testimony Opposing the RCEC Amendment Approval by CEC Staff.

Calpine facilities have demonstrated issues with its steam turbine generators before.

On Thursday, May 27, 2021, at approximately 11 p.m., RCEC experienced a mechanical failure of the steam turbine generator that resulted in an explosion and fire requiring emergency response by the local fire department. The steam turbine and generator experienced extensive damage. The cause of the failure is currently being investigated but despite not completing the investigation CEC staff is prematurely proposing to restart the facility in simple cycle mode.

This is not an isolated incident. Calpine's Bay Area combined cycle plants have experienced steam turbine failures before. On January 29, 2017 just four years ago Energy Commission CPM received Calpine's e-mail notification that a steam turbine generator failure event had occurred at the Delta Energy center, which resulted in a fire inside the steam turbine generator containment building. The notification indicated that the turbine failure and fire was limited to the facility and there was no risk or danger to the neighboring communities.

Unlike the Delta Energy explosion, the Russel City Energy Center explosion did in fact threaten the surrounding community. According to media reports, *"Debris traveled hundreds of feet with some pieces weighing in excess of 50 pounds, according to the city. Many landed at Hayward's wastewater treatment plant and required more than one person to lift. One 15-pound piece of twisted metal traveled some 1,200 feet and crashed through the roof of a trailer at Hayward's homeless navigation center,*

*melting the carpet, according to the incident report.” That came through the roof,” said Chuck Finnie, Hayward’s public information officer. “I was very concerned and very thankful nobody was hurt.”<sup>1</sup> As a safety precaution, police evacuated one square mile around the plant located on Depot Road, a largely industrial area. “I was just shocked they asked us to leave,” said Sandra Scott who lives near the plant. “It sounded like a boom.”<sup>2</sup>”*

The City of Hayward reports that, *“A fifteen-pound portion of the metal debris pierced the roof of one of the units at the Navigation Center, melted the carpet, and caused yet to be ascertained damages. Through nothing more than luck, the trailer was unoccupied at the time, with the Navigation Center’s clientele asleep in nearby facilities. Many other pieces of metal, one weighing over fifty pounds, fell on the WPCF property. During the day shift, over thirty City staff members work at the facility. There was also a report by a driver of a vehicle on State Route 92 that his vehicle was hit by an unidentified piece of metal around the time of the explosion. The WPCF was also littered with the unidentified metal. These metal shards could have damaged critical infrastructure at the facility or injured a City employee. Hayward first responders may have also suffered from exposure to various compounds encountered while fighting the blaze at the power plant. Breathing issues were also reported by City employees working at the WPCF.”*

Incorrect Finding of Fact number 4 from the RCEC Final Decision states, *“Existing governmental land use restrictions are sufficient to adequately control population density in the area surrounding the facility and may be reasonably expected to ensure public health and safety.”<sup>3</sup>* Finding of Fact number 4 should be eliminated from the decision.

Energy Commission staff investigated the steam turbine explosion at the Delta Energy Center in the, “Energy Commission Final Investigation Report for the 2017 Turbine Failure.” According to the report, *“Staff cannot definitively define the failure*

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<sup>1</sup> <https://www.ktvu.com/news/plant-explosion-sends-heavy-metal-and-shrapnel-flying-in-hayward-cause-unknown>

<sup>2</sup> <https://www.ktvu.com/news/plant-explosion-sends-heavy-metal-and-shrapnel-flying-in-hayward-cause-unknown>

<sup>3</sup> RCEC Final Decision Page 2

*mechanism. Staff did not find evidence of any violation of the Energy Commission Conditions of Certification by Calpine as a result of the steam turbine generator failure and fire. Staff also reviewed Calpine's root cause analysis (RCA)/investigation report. Calpine's RCA did not determine the exact trigger for the event."*<sup>4</sup>

CEC Staff's failure to identify the root cause of the Delta Energy Center's Steam turbine failure should not be repeated here. RCEC should not be allowed to jeopardize public health and safety because its proximity to the community. While both of the RCEC and the Delta steam turbine failures have not led to a loss of life the RCEC failure demonstrated that this accident could have injured nearby residents, workers at the wastewater treatment plant, and homeless people and workers at Hayward's homeless navigation center.<sup>5</sup>

Calpine has a history of fires and explosions at its facilities. Just ten days ago there was an explosion at the Calpine Natural Gas Generation Plant in Corpus Christi, Texas on June 18, 2021.<sup>6</sup> The explosion occurred at Calpine's natural gas plant located at 3952 Buddy Lawrence Dr. A fatality occurred from the explosion.

This is an admitted Environmental Justice Community. Restart of this facility without determining the root cause of the problem endangers this EJ community.

A new health risk assessment is necessary.

The project must provide a new health risk assessment to comply with BAAQMD Regulation 2-5-101 which provides that , "The purpose of this rule is to provide for the review of new and modified sources of toxic air contaminant (TAC) emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. The rule applies to a new or **modified source** of toxic air contaminants that is required to have

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<sup>4</sup> TN 223272 Energy Commission Final Investigation Report for the 2017 Turbine Failure. Page 1

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=223272&DocumentContentId=15856>

<sup>5</sup> <https://www.ktvu.com/news/plant-explosion-sends-heavy-metal-and-shrapnel-flying-in-hayward-cause-unknown>

<sup>6</sup><https://www.spaglaw.com/blog/2021/06/explosion-at-corpus-christi-calpine-natural-gas-plant-one-killed/>

an authority to construct or permit to operate pursuant to Regulation 2, Rule 1.” The projects health risk assessment must be reevaluated before operation in simple cycle mode to comply with BAAQMD Regulation 2 Rule 1 and identify and prevent potential impacts to the environmental justice community.

Compliance with ambient air quality standards must be demonstrated in simple cycle mode.

In order to operate this project in simple cycle mode the commission must demonstrate that the project will not violate any ambient air quality standards while operating this project in this mode of operation. The Final Staff Assessment for the RCEC shows that the project as currently configured would create a violation of the most recent California ambient air quality NO<sub>2</sub> standard of 339 µg/m<sup>3</sup> as seen in the Table 13 below from the FSA. The commission needs to model the air quality impacts of this project in simple cycle mode to demonstrate compliance with Federal and State air quality standards before they permit this project to operate as a peaker. The contention that the project does not cause a significant impact to the environment cannot be demonstrated without air quality analysis demonstrating that the project in simple cycle mode will not violate ambient air quality standards.

**AIR QUALITY Table 13**  
**RCEC Refined Modeling Maximum Impacts ( $\mu\text{g}/\text{m}^3$ )**

POLLUTANT	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
<b>NO2</b>	1 hour *	18.9	206.8	225.7	470	48 %
	1 hour *	169.0	206.8	375.8	470	80 %
	Annual	0.36	41.5	41.86	100	42 %
<b>SO2</b>	1 hour	20.15	104.8	124.95	655	19 %
	3 hour	3.67	52	55.67	1,300	4 %
	24 hour	0.35	18.4	18.75	105	18 %
	Annual	0.02	5.3	5.32	80	7 %
<b>PM10</b>	24 hour	3.78	88	91.78	50	184 %
	Annual Geo. Mean	0.22	21.9	22.12	30	74 %
<b>CO</b>	1 hour	1230.6	6440	7670.6	23,000	33 %
	8 hour	230.1	3617	3847.1	10,000	38 %

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The modification as proposed does not comply with BAAQMD Rule 2-1-305.

The modification as proposed does not comply with BAAQMD Rule 2-1-305 Conformance with Authority to Construct which requires that, “A person shall not put in place, build, erect, install, modify, modernize, alter or replace any article, machine, equipment, or other contrivance for which an authority to construct has been issued except in a manner substantially in conformance with the authority to construct.

#### Best Available Control Technology (BACT) Determinations

Per Regulation 2-2-301.2, a modified source must use the Best Available Control Technology (BACT) to control emissions for each District BACT pollutant for which the source is modified as defined in Regulation 2-1-234. The District BACT pollutants are POC, NPOC, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO as defined in Regulation 2-2-210. CEC Staff’s analysis of the modification never addresses whether the project meets the current BACT requirements of the project. RCEC’s current permit requires that the

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<sup>7</sup> Russel City Energy Center Final Staff Assessment Page 4.1-19  
[https://ww2.energy.ca.gov/sitingcases/russellcity/documents/2002-06-10\\_FSA\\_ada.PDF](https://ww2.energy.ca.gov/sitingcases/russellcity/documents/2002-06-10_FSA_ada.PDF)

nitrogen oxide emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O<sub>2</sub>, averaged over any 1-hour period. This is likely not possible in simple cycle mode at this facility as currently configured.

The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O<sub>2</sub> averaged over any 1-hour period. Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) mass emissions at P-1 & P-2 each shall not exceed 7.5 pounds per hour or 0.0036 lb PM<sub>10</sub>/ PM<sub>2.5</sub> per MM BTU of natural gas fired.

CEC Staff's analysis never discusses whether the project can meet its current BACT permit limits a fact which would be required for CEC staff to make a determination that the project meets the criteria for approval at the staff level." Section 1769(a)(3)(A), Title 20, California Code of Regulations requires that the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations." The proposed amendment would violate several BAAQMD permit conditions so the CEC Staff cannot make the amendment determination on their own.

#### GHG Emissions

Section 1769(a)(3)(A), Title 20, California Code of Regulations states, "*(s)taff shall approve the change where staff determines that the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards.*" CEC Staff's recommendation to allow this project to operate in simple cycle mode states that the, "The Bay Area Air Quality Management District's (BAAQMD) permit includes a condition that is not included in the Energy Commission Final Decision. The condition requires the facility to maintain the gas turbines such that the heat rate of each turbine does not exceed 7,730 British thermal units per kilowatt hour (BTU/Kw-hr). RCEC cannot comply with this requirement while operating in simple-cycle mode.

Hayward Fire Department must be reimbursed by Calpine.



According to media reports, *“About 40 firefighters rushed to the scene to put out and contain a large fire in the middle of the power facility.”*<sup>8</sup> The expenses encountered by the Hayward Fire Department should be reimbursed by Calpine. These expenses occurred due to Calpine’s negligence in maintaining its power plants. The RCEC Final Commission Decision Worker Safety and Fire Protection finding of fact states number 4 states, *“The project will not cause adverse impacts to existing fire and emergency service resources.”*<sup>9</sup> The City of Hayward Fire Department expended substantial resources in responding to this turbine explosion. The city of Hayward reports that , *“Hayward first responders may have also suffered from exposure to various compounds encountered while fighting the blaze at the power plant. ”*

The CEC is responsible as obviously their oversight of Calpine is lacking and they are assuring communities that these facilities are safe and will not impose any undue burden of local emergency services. Before this project is allowed to operate in any mode the CEC should require:

**WORKER SAFETY–4 The project owner shall enter into an agreement with the City of Hayward for enhanced fire protection services. This agreement shall provide for the applicant to reimburse the City of Hayward for all expenses related to responding to incidents at the Russel City Energy Center.**

#### Noise

According to CEC Staff’s assessment, *“The pressure relief vent would release steam in the unanticipated event that an overpressure of the condenser occurs. The pressure release would generate non-continuous temporary noise.”* Staff’s analysis of the modification does not quantify the noise level produced by the pressure relief vent or frequency of occurrence that the relief valve would be utilized. Staff’s analysis fails to

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<sup>8</sup> <https://www.ktvu.com/news/plant-explosion-sends-heavy-metal-and-shrapnel-flying-in-hayward-cause-unknown>

<sup>9</sup> RCEC Final Decision Page 133

demonstrate that the noise from activation of the pressure relief valve complies with the City of Hayward's noise ordinance.

According to the RCEC Commission Decision, "High-pressure steam blows could produce noise as loud as 136 dBA at a distance of 50 feet.<sup>10</sup> In response to temporary noise from construction steam blows "Staff has proposed Conditions of Certification to limit noise from steam blows by prohibiting the use of high-pressure steam blows unless appropriately silenced and to implement a notification process to make neighbors aware of impending steam blows."<sup>11</sup> Staff has neither quantified the noise levels or the frequency and duration of occurrence of the use of the relief valve. Staff's analysis does not demonstrate that the project will comply with the City of Hayward's Noise Element permissible noise level of 75 Ldn for industrial uses. There is no evidence that the project's steam blows would comply with all noise regulations and standards.

#### Traffic and Transportation

Staff's amendment analysis never addresses the possible plume impacts that may occur from converting the project to simple cycle. Exhaust velocities will change on the project's conversion to simple cycle. The FAA currently has issued a navigation chart instructing pilots to avoid direct overflight of the HRSG stacks of the RCEC due to thermal plume effects on aircraft. A new thermal plume analysis needs to be conducted to ensure no significant impacts will occur.

The City of Hayward reports that, "There was also a report by a driver of a vehicle on State Route 92 that his vehicle was hit by an unidentified piece of metal around the time of the explosion." This report must be followed up on if this is true. Shielding around the plant must be installed to prevent impacts to drivers on Highway 92 and the streets surrounding the power plant.

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<sup>10</sup> RCEC Commission Decision Page 199

<sup>11</sup> RCEC Commission Decision page 199

## Conclusion

According to CEC Staff's Statement of Staff Approval of Post Certification Change the, "*CEC staff has determined the proposed change to the project meets the criteria for approval at the staff level.*" Section 1769(a)(3)(A), Title 20, California Code of Regulations states, "(s)taff shall approve the change where staff determines: (i) that there is no possibility that the change may have a significant effect on the environment, or the change is exempt from the California Environmental Quality Act; (ii) that the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards; and (iii) that the change will not require a change to, or deletion of, a condition of certification adopted by the commission in the final decision or subsequent amendments."

As disused above the project does not comply with all of the requirements contained in RCEC's air permit from BAAQMD. Energy Commission Staff has failed to support its conclusionary statements with any evidence which shows the project will not result in significant impacts to the environment. Staff has not met the requirements of Section 1769(a)(3)(A) which would allow a staff level approval of this amendment. An evidentiary hearing must be conducted to determine if the project will significantly impact the environment when operating as a peaker plant. Its obvious the project does not comply with the RCEC decision and the BAAQMD ATC.

## RESUME OF ROBERT SARVEY

### Academic Background

**BA Business Administration California State University Hayward, 1975**

**MBA Tax Law California State University Hayward, 1985**

### Experience

#### **San Joaquin Valley Air Pollution Control District Citizens Advisory Board Industry**

**Representative:** Analyzed proposed air quality regulations and made recommendations to the Governing Board for approval.

**GWF Peaker Plant 01-AFC-16:** Participated as an Intervenor in the project and helped negotiate and implement a 1.3 million dollar community benefits program. Successfully negotiated for the use of local emission reduction credits with GWF to offset local air quality impacts.

**Tesla Power Project 01- AFC-04:** Participated as an Intervenor and provided air quality testimony on local land use and air quality impacts. Participated in the development of the air quality mitigation for the project. Provided testimony and briefing which resulted in denial of the PG&E's construction extension request.

**Modesto Irrigation District 03-SPEE-01:** Participated as an Intervenor and helped negotiate a \$300,000 air quality mitigation agreement between MID and the City of Ripon.

**Los Esteros: 03-AFC-2** Participated as an Intervenor and also participated in air quality permitting with the BAAQMD. Responsible for lowering the projects permit limit for PM-10 emissions by 20%.

**SFERP 4-AFC-01:** Participated as an Intervenor and also participated in the FDOC evaluation. My comments to the BAAQMD resulted in the projects PM -10 emission rate

to be reduced from 3.0 pounds per hour to 2.5 pounds per hour by the District. Provided testimony on the air quality impacts of the project.

**Long Beach Project:** Provided the air quality analysis which was the basis for a settlement agreement reducing the projects NOx emissions from 3.5ppm to 2.5ppm.

**ATC Explosive Testing at Site 300:** Filed challenge to Authority to Construct for a permit to increase explosive testing at Site 300 a DOE facility above Tracy. The permit was to allow the DOE to increase outdoor explosions at the site from 100 pounds per charge to 300 pounds per charge and also grant an increased annual limit on explosions from 1,000 pounds of explosive to 8,000 pounds of explosives per year. Contested the permit and succeeded in getting the ATC revoked.

**CPUC Proceeding C. 07-03-006:** Negotiated a settlement with PG&E to voluntarily revoke Resolution SU-58 which was the first pipeline safety waiver of GO112-E granted in the State of California. Provided risk assessment information that was critical in the adoption of the Settlement Agreement with PG&E which, amongst other issues, resulted in PG&E agreeing to withdraw its waiver application and agreeing to replace the 36-inch pipeline under the sports park parcel after construction.

**East shore Energy Center: 06-AFC-06:** Intervened and provided air quality testimony and evidence of cancellation of Eastshore's power purchase agreement with PG&E.

**Colusa Generating Station: 06-AFC-9:** Participated as air quality consultant for Emerald Farms. Filed challenge to the PSD Permit.

**CPUC proceeding 08-07-018:** Tesla Generating Station CPCN participated in proceeding which was dismissed due to motion by IEP. Reviewed all filings, filed protest, signed confidentiality agreement and reviewed all confidential testimony.

**GWF Tracy Combined Cycle 08-AFC-07:** Participated in negotiation of the Air Quality Mitigation Agreement with the San Joaquin Valley Air Pollution Control District and GWF.

**CPUC Proceeding 09-09-021:** Provided Testimony that demonstrated PG&E failed to follow its environmental protocol in the LTPP. Provided testimony and evidence that PG&E's need had fallen since 2007 and that the Commission should limit PG&E's procurement to the 950-1000 MW Range.

**CPUC Proceeding A. 09-04-001:** Demonstrated PG&E had violated terms of Mariposa Settlement Agreement. PG&E was fined \$25,000 for breach of settlement.

**CPUC Proceeding A. 09-10-022:** Provided Testimony on behalf of Californians for Renewable Energy. Provided confidential evaluation of PPA value. Provided testimony and evidence that PG&E had violated the Mariposa Settlement. Provided testimony that demonstrated PG&E's demand had fallen sharply since the issuance of D. 07-12-052.

**Oakley Generating Station 09-AFC-04:** Participated as an intervenor. Provided testimony in Alternatives, Air Quality, Environmental Justice, and Water Quality. Negotiated settlement with CCGS to not use ERC's and instead exclusively use 2.5 million dollars to create real time emission reductions through BAAQMD real time emission reduction programs.

**Pio Pico PSD Permit:** Participated in the Pio Pico PSD permit. Comments resulted in a remand to the air district and a lowering of particulate matter emission limits by 10%

**CPUC Proceeding A.11-12-003:** Was credited by the decision for demonstrating that an additional 5 MW of firm capacity was not needed from the Thermal Energy Biomass Plant. Decision led to the plants closure.

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA**

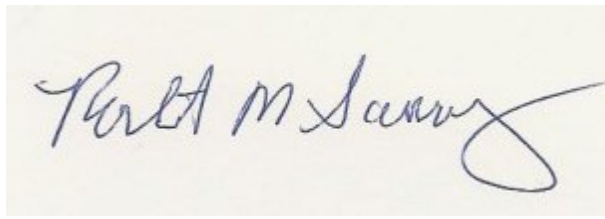
In the Matter of the Russell City Energy center  
Docket Number 01-AFC-7

Declaration of Robert Sarvey

I Robert Sarvey Declare as Follows:

1. I prepared the attached testimony opposing the CEC Staff Approval of the RCEC Amendment.
2. A copy of my professional qualifications and experience is included with this Testimony and is incorporated by reference in this Declaration.
3. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.
4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues that it addresses.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed in Tracy, California on July 2, 2021.

A handwritten signature in blue ink that reads "Robert M. Sarvey". The signature is written in a cursive style with a large, sweeping flourish at the end.

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Robert M. Sarvey  
501 W. Grant Line Rd.  
Tracy, CA. 95376  
209 835-7162