

Robert Sarvey  
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<b>DOCKET</b>	
<b>08-AFC-3</b>	
DATE	_____
RECD.	JUN 21 2010

State of California  
State Energy Resources Conservation and Development Commission

In the Matter of:	)	Docket # 08-AFC-3
	)	
Marsh Landing Generating	)	Testimony of
Station	)	Robert Sarvey
	)	
_____	)	

Q. Please state your name and qualifications for the record.

A. My name is Robert Sarvey. My Resume is attached to this testimony.

Q. Energy Commission staff considered recommending offsets in sufficient quantities to eliminate any potential particulate matter formation due to NH<sub>3</sub> emissions, but rejected this approach because of the unclear, complex, and localized relationship of NH<sub>3</sub> reacting with other precursors.<sup>1</sup> Do you believe that staff should require emission reductions to offset the ammonia emissions?

A. Yes. Energy Commission Staff previously recommended emission reductions for secondary particulate formation for ammonia emissions in the Contra Costa 8 project which is now called the Gateway Project.<sup>2</sup> The Contra Costa 8 Project is located next to

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<sup>1</sup> Revised Staff Assessment Page

<sup>2</sup> Commission Decision Contra Costa 8 Page 10

the proposed Marsh Landing Project so the analysis performed by the CEC Staff in the Contra Costa 8 project is relevant. The CEC Staff's analysis performed in that proceeding determined that the Contra Costa 8's ammonia emissions had the potential to contribute to the ammonium nitrate emissions, which would worsen the existing violation of the PM<sub>10</sub> standard. According to the CEC Staff's testimony in that proceeding the ammonia emissions from the Contra Costa 8 project would cause a secondary particulate matter impact of approximately 2 µg/m<sup>3</sup>.<sup>3</sup>

In the case of the Marsh Landing Project any contribution to secondary PM<sub>2.5</sub> formation is significant since the existing background 24-hour PM<sub>2.5</sub> monitoring data from Concord is already at the Federal standard.<sup>4</sup> For the Bay Area, public health impacts from PM<sub>2.5</sub> may well exceed the combined impacts of all other currently regulated air pollutants.<sup>5</sup>

Table 1 PM<sub>2.5</sub> Trends Summary 2975 Treat Blvd. Concord<sup>6</sup>

Year	Est. Days > Nat'l '06 Std.	Annual Average		Nat'l Ann. Std. D.V. <sup>1</sup>	State Annual D.V. <sup>2</sup>	Nat'l '06 Std. 98th Percentile	Nat'l '06 24-Hr Std. D.V. <sup>1</sup>	High 24-Hour Average		Year Coverage
		Nat'l	State					Nat'l	State	
2009	1.0	8.4	8.4	8.7	9	29.2	33	39.0	39.0	94
2008	7.0	9.3	9.5	9.0	10	35.2	35	60.3	60.3	90
2007	7.1	8.4	8.7	8.9	10	34.9	34	46.2	46.8	100
2006	5.5	9.3	10.0	*	12	33.6	35	62.1	62.1	90
2005	5.4	9.1	9.3	*	12	33.4	35	48.9	48.9	92

<sup>3</sup> Commission Decision Contra Costa 8 Page 10

<sup>4</sup> <http://www.arb.ca.gov/adam/trends/trendsdisplay.ph>

<sup>5</sup> Exhibit 1 Page E-1

[http://www.baaqmd.gov/~media/Files/Engineering/Public%20Notices/2010/18404/Footnotes/PM-data-analysis-and-modeling-report\\_DRAFT.ashx](http://www.baaqmd.gov/~media/Files/Engineering/Public%20Notices/2010/18404/Footnotes/PM-data-analysis-and-modeling-report_DRAFT.ashx)

<sup>6</sup> <http://www.arb.ca.gov/adam/trends/trendsdisplay.ph>

Q. Does the BAAQMD assess the impacts from secondary particulate formation from ammonia emissions?

A. No. Ammonia emissions are not restricted by the Bay Area Air Quality Management District except for avoiding excessive health risks. The District's latest analysis of secondary PM<sub>2.5</sub> formation identifies the reduction of ammonia emissions as the most effective means of reducing secondary particulate formation.<sup>7</sup>

Q. Do you think that the CEC's proposed mitigation for direct PM<sub>2.5</sub> emissions will be effective in mitigating the significant impacts from the direct PM<sub>2.5</sub> emissions.

A. No. I agree with the CEC Staff that, "that particulate matter emissions from routine operation would cause a significant impact because they will contribute to existing violations of PM<sub>10</sub> and PM<sub>2.5</sub> ambient air quality standards." But the mitigation proposed which consists of PM<sub>10</sub> emission reduction credits which occurred in 1987 and 1993 is already reflected in the background ambient air concentrations in the Staffs analysis. Direct emissions of PM<sub>10</sub> and PM<sub>2.5</sub> have been gradually increasing in the last few years and are projected to increase in the air district in the future. PM<sub>2.5</sub> ambient air concentrations have not shown any significant downward trend in recent years and the existing background 24-hour PM<sub>2.5</sub> monitoring data from Concord is already at the Federal standard. In addition to the Marsh Landing Project the CEC is reviewing another large natural gas power plant the Oakley Generating Station which is less than a mile away from the Marsh Landing Project. The Oakley Generating Station has the potential

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<sup>7</sup> Exhibit 1 Page E-3, E-4

to emit over 76 tons of PM<sub>2.5</sub> per year. The CEC staff has not included this project in its cumulative impact assessment so cumulative impacts are understated.

Q. Are there viable alternatives which would reduce the significant impacts from the Marsh Landing Project and still meet the projects objectives ?

A. Yes the original configuration of the Marsh Landing Project utilized the Siemens Flex Plant 10 variation which is a combined cycle configuration. The Flex Plant 10 has almost identical start times<sup>8</sup> but consumes approximately 30% less fuel per MW hour produced than the proposed SGT6-5000F turbines in Simple Cycle operation. This would lead to much lower greenhouse gas emissions per MW produced and lower system wide Greenhouse Gas emissions in compliance with the Commissions directives for Greenhouse Gas Emissions.

As the existing generating fleet in California is dispatched by heat rate the Flex Plant 10 variation would be utilized much more often, with its low heat rate of approximately 7,800 Btu/kWh, than the proposed simple cycle configuration with its 11,124 Btu/kWh heat rate. Licensing the project as proposed would lead to another under utilized peaker plant. For example the GWF Tracy Project utilizes a GE Frame 7 turbine and the project because of its higher heat rate has been utilized less than 100 hours per year since it became operational. To build a 760 MW peaker project and let it sit idle would be an incredible waste of ratepayer resources.

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<sup>8</sup> SGT6-5000F in Flex Plant 10 Combined Cycle Operation on Natural Gas @ 62 °F and 41 °F startup 12 minutes, SGT6-5000F(4) 9 ppm ULN in Simple Cycle Operation at 59 °F on Natural Gas 11 minute startup  
[http://www.energy.ca.gov/sitingcases/marshlanding/documents/applicant/data\\_request\\_responses\\_1-54/02\\_MLGS%20Appendix%20A.pdf](http://www.energy.ca.gov/sitingcases/marshlanding/documents/applicant/data_request_responses_1-54/02_MLGS%20Appendix%20A.pdf)

The Siemens Flex plant 10 combined cycle proposal would also lower the emissions of criteria pollutants produced per megawatt hour. It has a superior NOx emission rate of 2 ppm compared to the simple cycle turbines which have a 2.5 ppm NOx emission limit. The amount of particulate matter would be much less per MW produced.

The ammonia slip level for the combined cycle configuration would be 5 ppm half of the proposed 10 ppm ammonia slip for the simple cycle units. This would lessen the significant nitrogen deposition impacts from the project and also limit secondary particulate matter formation from ammonia emissions.

Combined-cycle gas turbine generation facilities, because of their superior efficiency, are dispatched at much higher capacity factors and therefore contribute significantly to meeting annual energy demands. Since the Oakley Project has been rejected at the CPUC in A. 09-09-021, 100% of the new generation from the 2008 LTRFO is peaking generation, providing very little benefit in PG&E's ability to meet increasing annual energy consumption.<sup>9</sup> Moreover, new renewable resources need to be integrated not only at the peak, but throughout the day. The Marsh Landing Project has operational constraints limiting it to 1,752 hours per year.<sup>10</sup> The original proposal for the Marsh Landing Facility with the Flex Plant 10 units would allow the project to meet annual energy demands and because of the rapid start capability the FP-10 units it could also meet peaking needs.

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<sup>9</sup> A. 09-09-021 PG&E comments on the Proposed Decision Page 13  
<http://docs.cpuc.ca.gov/efile/CM/119461.pdf>

<sup>10</sup> A. 09-09-021 PG&E comments on the Proposed Decision Page 13  
<http://docs.cpuc.ca.gov/efile/CM/119461.pdf>

## **Resume of Robert Sarvey**

### **Academic Background**

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

**MBA 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.

**East Altamont Energy Center 01-AFC-14:** Participated as an Intervenor and helped develop the conditions of certification for hazardous materials transportation, air quality, and worker safety and fire protection. Provided testimony for emergency response and air quality issues.

**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 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 BAAQM D 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. Succeeded in getting the ATC revoked.

**CPUC Proceeding C. 07-03-006:** Intervened in proceeding and 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.

**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 09-10-022:** Provided testimony on PG&E's application for approval of the PPA for the GWF Combined Cycle Project.

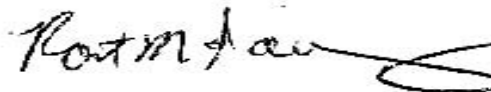
**CPUC Proceeding 09-09-021:** Provided testimony on PG&E's application for approval of the Marsh Landing PPA.

**DECLARATION OF  
Robert Sarvey, MBA, BS**

I Robert Sarvey declare as follows

- 1) I prepared the testimony of Robert Sarvey in Marsh Landing Generating facility 08-AFC-3.
- 2) It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
- 3) I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.
- 4) A copy of my professional qualifications is attached.

I declare under penalty of perjury, under the laws of the State of California, that the forgoing is true and correct to the best of my knowledge and belief, and that this declaration was executed on June 21, 2010 in Tracy, California.



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Signed 3-10-10



**DECLARATION OF SERVICE**

I, Robert Sarvey, declare that on June 21, 2010, I served and filed copies of the attached (08-AFC-3) Testimony of Robert Sarvey. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:

[[http://www.energy.ca.gov/sitingcases/marshlanding/Marshlanding\\_POS.pdf](http://www.energy.ca.gov/sitingcases/marshlanding/Marshlanding_POS.pdf)]. The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

**(Check all that Apply)**

**For service to all other parties:**

☒ sent electronically to all email addresses on the Proof of Service list;  
☐ by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

**AND**

**For filing with the Energy Commission:**

☒ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);

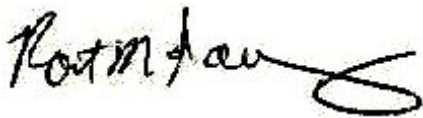
**OR**

☐ depositing in the mail an original and 12 paper copies, as follows:

**CALIFORNIA ENERGY COMMISSION**

Attn: Docket No. 09-AFC-4  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

I declare under penalty of perjury that the foregoing is true and correct



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