

# DOCKET

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State of California  
State Energy Resources Conservation and Development Commission

In the Matter of:	)	Docket # 09-AFC-03
	)	
Mariposa Energy Project	)	
	)	Edward Mainland's Rebuttal
	)	Testimony on Need for Project,
_____	)	No-Project Alternative
	)	Exhibit 900

Rebuttal Testimony of Edward Mainland on Need for Project, No-Project Alternative

Sierra Club California submits this rebuttal testimony in response to the proposal to add one new 184-MW<sup>1</sup> natural-gas fired power plant in Eastern Alameda County.

Staff's testimony dismisses the no-project alternative in its testimony:

"If the project is not built, the region will not benefit from the relatively efficient source of 200 MW of new generation that this facility would provide. This new generation would increase the supply of energy and potentially serve load demands in the Bay Area of Northern California. It is thus difficult to determine whether the "no project" alternative would have serious, long-term consequences on air quality and the cost or reliability of electricity in the region. If no new natural gas plants were constructed, reliance on older power plants may increase. These plants would consume more fuel and emit more air pollutants per kilowatt-hour generated than the proposed project. In the near term, the more likely result is that existing plants, many of which produce higher level of pollutants, would operate more than they do now. Thus, the "no project" alternative is not environmentally superior to the MEP project."<sup>2</sup>

Staff's analysis is defective. Sierra Club urges California Energy Commission to deny the application for the following reasons:

• **The power plant is not needed to meet in-state electrical demand**

The proposed new Mariposa natural gas-fired power plant will add 184 MW to California's electrical grid. PG&E claims that further fossil fuel development is necessary to ensure grid reliability and to meet the state's electrical demand. Recent information from the California Energy Commission<sup>3</sup> as well as that forecasted in the California Gas report demonstrates decreasing demand for electricity from natural gas power plants in the coming years. CEC's 2010 revised energy forecast indicated that in 2010, demand in

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<sup>1</sup> Summer peak electrical output

<sup>2</sup> SSA Page 6-18

<sup>3</sup> See CEC, *2009 Integrated Energy Policy Report* at p. 51, available at <http://www.energy.ca.gov/2009publications/CEC-100-2009-003/CEC-100-2009-003-CMF.PDF>; see also Ex. 403 (CED 2010-2020 Adopted Forecast, Dec. 2009);

PG&E's service area was far below 2006 levels and not anticipated even to climb back to 2006 levels within the subsequent five years. PG&E's over-procurement of natural gas is well documented and an adequate and persuasive showing of "reasonable need" is absent.

• **The proposal violates PG&E's own Environmental Leadership Protocol**

In its Environmental Leadership Protocol, PG&E established a commitment to exceed environmental protection standards by mitigating the environmental impacts of their energy projects.<sup>4</sup> PG&E's current proposal will add another natural gas-fired power plant to Alameda County's already substantial burden of greenhouse gases, sulfur dioxide and carbon monoxide in the Bay Area. The proposed power plant will emit substantial amounts of ozone, particulate matter, and other pollutants, which increase health risks.

• **PG&E's proposal is inconsistent with California's commitment to renewable energy**

California's Renewable Portfolio Standard law requires that all electrical suppliers procure at least 20% of electricity from renewable resources by 2010 and the Governor's Executive Order mandates 33% by 2020. A study conducted by the consulting firm 3E for the California Public Utilities Commission shows that in order to achieve these goals, electrical suppliers need to phase-out fossil fuel power plants and increase renewable energy generation. The applicant has not adequately explained how the proposed power plant will enable renewable generation. In fact, since California's renewable energy law was passed in 2002, PG&E's track record has been to decrease its renewable generation by building more natural gas-fired power plants throughout the state. Since 2002 through 2010, PG&E's renewable generation has fallen short of RPS-mandated goals. Bringing still more natural gas facilities on line will hamper the state's

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<sup>4</sup>D 10-07-045 Finding of Fact # 7 Page 52  
[http://docs.cpuc.ca.gov/word\\_pdf/FINAL\\_DECISION/121605.pdf](http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/121605.pdf)

policy of accelerating the transition to more renewable sources and will be inconsistent with CEC's "loading order" ([The] loading order for electricity resources calls for meeting new electricity needs first with energy efficiency and demand response; second, with new generation from renewable energy and distributed generation resources; and third, with clean fossil-fueled generation and transmission infrastructure improvements.<sup>5</sup>).

• **This application violates Sierra Club California policy.**

On January 24, 2009, Sierra Club California took the following position on new natural-gas electricity generation:

“RESOLUTION To achieve reductions in greenhouse gas emissions mandated by AB 32 the Global Warming Solutions Act of 2006, and to meet the 33% Renewable Portfolio Standard by 2020 as the 2010 executive order signed by Governor Schwarzenegger requires, Sierra Club California opposes licensing of new natural gas-fired electrical generation power plants (larger than 50 MW) in California. This policy shall not apply to licensing of alternative technologies using natural gas fuel (such as cogeneration plants, renewables with natural gas backup, large fuel cell facilities, and biogas) if they significantly reduce fossil fuel consumption and carbon emissions, and protect air quality.”

Supporting this resolution, the Club stated:

1. Current state policy requires large increases in renewable energy, rooftop solar, energy efficiency, peak demand reduction; building more natural gas power plants is incompatible with these policies.

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<sup>5</sup> See CEC, *2009 Integrated Energy Policy Report* at p. 1, available at <http://www.energy.ca.gov/2009publications/CEC-100-2009-003/CEC-100-2009-003-CMF.PDF>

2. Natural gas power plants increase air pollution in regions of the state that are non-attainment for air quality, and particularly affect the neighborhoods where they are sited.
3. Building more natural gas plants is contrary to achieving California's climate protection goals.
4. The state already has a very large amount of natural gas power.
5. California's Energy Commission has permitted so many new natural gas plants that dozens have not even been built due to lack of sufficient demand.
6. There are numerous alternatives for meeting grid reliability than large natural gas plants, including rooftop solar, battery storage, demand reductions, renewably powered peaker plants, etc. that will not contribute to global warming.
7. If the current efficiency requirements are implemented, demand should actually shrink.
8. We need to send a clear message to regulators and lawmakers that the current policy of unrestrained approval and building of more large-scale natural gas power plants is not acceptable.
9. Each additional approved 500 megawatt NG power plant that is built will emit approximately 2 million tons of carbon dioxide (plus other GHGs) for at least thirty years.
10. Plants under 50 megawatts, including emergency generators and small peaking plants needed for local reliability, are excluded from this policy.
11. The cost of inaction against global warming will be devastating to California and the world.

**Supporting arguments:**

-- Reasons for rejecting the Mariposa proposal to build and procure additional natural-gas MW include changed assumptions about demand owing to decreased population growth,<sup>6</sup> inaccurate estimates of the amount of MW that would be exported<sup>7</sup> and retired, decreased energy consumption, increase in energy efficiency<sup>8</sup> and use of renewable sources. The 2009 - That 2009 and 2010 CAL-ISO Summer preparedness assessments both demonstrate that PG&E does not need any new MW. The 2009 Planning Reserve Margin in PG&E's NP 26 territory consistently remained at 44-46 percent, far beyond the required 15 percent reserve margin required. This constitutes an excess of no less than 5,527 MW, a margin so large that any uncertainties in the need for additional generation in PG&E territory in 2010-2020 can be readily absorbed.

-- PG&E's procurement of excess capacity for alleged reliability concerns is unreasonable and unnecessary given NP26's 2009 planning reserve margin 44% reserve margin at the summer peak. PG&E does not need **any** new MW in its territory. PG&E should be required to show why additional MW would be reasonable and necessary given this extraordinarily high reserve margin.

-- Even though the 2009 CEC forecast predicts a lower demand, the demand would have been lower still if the CEC had used more reliable, current population statistics.

According to the CEC, there is no expected increase in per capita electricity consumption or peak demand over the 2010-2020 periods. This implies that population growth will be

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<sup>6</sup> See CEC, *2009 Integrated Energy Policy Report* at p. 51, available at <http://www.energy.ca.gov/2009publications/CEC-100-2009-003/CEC-100-2009-003-CMF.PDF>; see also Ex. 403 (CED 2010-2020 Adopted Forecast, Dec. 2009);

<sup>7</sup> Revisiting Path 26 Power Flow Assumptions (Staff Paper, October 2008) at p. 3, available at <http://www.energy.ca.gov/2008publications/CEC-200-2008-006/CEC-200-2008-006.pdf>.)

<sup>8</sup> [Incremental Impacts of Energy Policy Initiatives Relative to the 2009 Integrated Energy Policy Report Adopted Demand Forecast, Committee Report. Publication number CEC-200-2010-001-CTF. Posted May 20, 2010.](#)

the primary driver for residential and commercial energy demand growth. Considering that population growth will be the only source of new demand, the best forecast should use the most current and reliable growth statistics available. The CEC relied on three sources for population growth statistics in the CED 2007 that have since lowered their predictions. Despite this, the CED 2009 Adopted uses those same population growth statistics, which are now too high. Therefore, the use of this outdated data has significantly inflated predicted demand.

--PG&E has argued that an increased number of natural gas facilities are necessary to integrate renewable energy into the grid. This argument lacks merit because California Energy Commission (CEC) data show no new natural gas facilities are currently needed in the Bay Area to integrate renewable energy.<sup>9</sup> Even if new backup was needed, energy storage and upgrades to existing facilities could back up renewables. CEC has found that new natural gas facilities are not currently needed to integrate renewable energy and meet RPS goals.<sup>10</sup> This is true even considering the eventual phase-out and retirement of several OTC facilities. Any alleged need for new facilities becomes even less justified when PG&E's existing facilities are running at extremely low annual capacity factors. Whatever numbers PG&E derives from selective use of one among multiple scenarios in CEC's Report, in fact PG&E has procured above 1474 MW capacity in recent CPUC proceedings, the MW are not actually needed until 2020, and PG&E has already procured over the amount recommended for Northern California.

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<sup>9</sup> See CEC's *Impact of Assembly Bill 32 Scoping Plan Electricity Resource Goals on New Natural Gas-Fired Generation* (2009); see also Ex. 501 ("the study found that no new natural gas plants are needed in the San Francisco Bay Area to meet local reliability needs in light of the push to meet the 33% renewable portfolio standard.")

<sup>10</sup> California Energy Commission, *Impact of Assembly Bill 32 Scoping Plan Electricity Resource Goals on New Natural Gas-Fired Generation*, CEC-200-2009-011 (June 2009), available at <http://www.energy.ca.gov/2009publications/CEC-200-2009-011/CEC-200-2009-011.PDF>.)

-- Even if more backup was needed for renewable energy, energy storage and upgraded existing facilities can meet this need. Importantly, wind and solar PV energy can be stored at a commercial level. Existing battery storage technology and other types of storage technology already provide a way to store renewable energy, and PG&E itself has currently existing technology that can back up renewable energy. For instance, the Helms Pump Storage Facility in PG&E's system currently provides 600 MW of backup power for renewable energy. Indeed, CEC has further found that existing storage technology is sufficient to back up renewable energy<sup>11</sup>, a conclusion also reached by CAISO.<sup>12</sup> Moreover, to the extent that backup fossil fuel energy for intermittent renewable generation is needed, the most environmentally beneficial way to accomplish this is not to build additional unneeded fossil fuel facilities, but to install existing technology such as OpFlex, a relatively simple way to upgrade existing natural gas facilities that allows for faster, more efficient startup times.

-- Finally, allowing PG&E to procure unneeded fossil fuel energy will likely deter needed development of renewable projects. A CPUC LTTP decision has reiterated that PG&E should not "crowd out preferred resources and/or systematically overprocure." (13) CPUC has stated, "AB 32 and Senate Bill (SB) 1368, California's climate change laws, provid[e that] . . . procurement must now consider carbon risk when filling net short positions with fossil resources, so as not to 'crowd out' preferred resources." (14)

Thus, CEC should not approve PG&E's request to procure unneeded fossil fuel energy at Mariposa Energy Project.

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<sup>11</sup> 2009 IEPR at pp. 86, 192

<sup>12</sup> California ISO, *Integration of Renewable Resources* at p. 21

(November 2007), available at <http://www.caiso.com/1ca5/1ca5a7a026270.pdf>

<sup>13</sup> D.07-12-052 at p. 42; see also Ex. 502 (Reply Test. of R. Cox and B. Powers) at p. 2 (Lawrence Berkeley National Laboratory study found that California would need to *reduce* natural gas capacity to meet the 33 percent renewable energy requirement..

<sup>14</sup> (R.08-02-007 at p. 1, Feb. 14, 2008).



**DECLARATION OF Edward A. Mainland**

**I, Edward A. Mainland, declare as follows**

- 1) I prepared the Opening Testimony of Edward Mainland on need for the Mariposa Energy Project (MEP).**
- 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) My professional qualifications (see attached resume) include Co-Chair, Energy-Climate Committee, Sierra Club California; Senior Conservation Fellow, national Sierra Club; co-founder and Board Member, Sustainable Novato; reviewer, "Community Power" (2011).**

**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 January 21, 2011 at Novato, California.**

**/s/ \_\_\_\_\_  
Signed 1-21-11  
Edward A. Mainland**

**RESUME (CURRICULUM VITAE)  
EDWARD A. MAINLAND**

**B.A. (International Relations), University of Southern California; Foreign Service Officer, United States Department of State; Director, European Service, Voice of America (USIA); Co-Founder and Board Member, Fairfax ReLeaf (Fairfax County, Virginia); Founder and Board Member, McLean Trees Committee, McLean, VA; Co-Chair, Energy-Climate Committee, Sierra Club California (six years); representative and advocate for Sierra Club California at hearings, workshops and meetings of state energy and climate agencies and programs; Senior Conservation Fellow, national Sierra Club (11 years); Co-Founder and Board Member, Sustainable Novato (seven years); Secretary and Board Member, Sustainable Marin (seven years); reviewer and contributor, “Community Power” (2011).**

**DECLARATION OF SERVICE**

I, Edward A. Mainland, declare that on January 21, 2011 I served copies of Edward A. Mainland's Opening Testimony on Need for Project. The document has been sent to both 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)**

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

s/ \_\_\_\_\_  
Edward A. Mainland  
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