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May 5, 2008

BY FACSIMILE AND U.S. MAIL

Karen Dennis
Tulare County Resource Management Agency
5961 S. Mooney Boulevard
Visalia, CA 93277

RE: Draft Environmental Impact Report for Buena Vista Dairy
SCH # 2007121025
PSP 99-046

Dear Ms. Dennis:

The Attorney General submits these comments pursuant to the California Environmental Quality Act ("CEQA") on the Draft Environmental Impact Report ("DEIR") for the Buena Vista Dairy ("the Project").¹ On December 26, 2007, the Attorney General submitted comments on the Notice of Preparation, stating that the DEIR must address the impact of greenhouse gas ("GHG") emissions from the proposed new dairy. Our letter noted that the County was required under CEQA to consider a range of mitigation measures and suggested some candidate measures that might be feasible for this Project. The DEIR does not, however, analyze a single one of these suggestions or the many other specific measures that could potentially reduce the Project's emissions to levels below significance. Moreover, the few mitigation measures that are imposed are of undisclosed effectiveness or are vague and unenforceable.

While we commend the County for including in the DEIR some discussion and quantification of GHG emissions, as discussed below, the document is inadequate in significant respects and must be revised in order to comply with CEQA.

¹The Attorney General provides these comments pursuant to his independent power and duty to protect the natural resources of the State from pollution, impairment, or destruction in furtherance of the public interest. (See Cal. Const., art. V, § 13; Cal. Govt. Code, §§ 12511, 12600-12; *D'Amico v. Board of Medical Examiners*, 11 Cal.3d 1, 14-15 (1974).) These comments are made on behalf of the Attorney General and not on behalf of any other California agency or office.

1. The Project and Project Background

The Buena Vista Dairy will create a new dairy with a maximum of 4,457 head of cattle (2,100 milk cows plus 2,357 support stock) on a 72-acre site about 7 miles south of the city of Tulare. (DEIR at p. 2-1.) According to the DEIR, the Project will emit 28,111 metric tons of CO₂ equivalents per year (DEIR at pp. 3-54 to 3-55), the equivalent of putting about 5,000 additional cars on the road.

The potential impacts of this new dairy should be viewed in context. Tulare County is the top dairy producing county in the nation. (DEIR at p. 2-6.) As of 2006, Tulare County had over 466,000 dairy cows and 341 dairies, by far the most cows and dairies of any county in California.² These numbers have increased steadily over the past decades.³

As noted in our previous comments, methane accounts for approximately 5.7 percent of all GHG emissions in California, and half of the State's methane emissions comes from livestock and manure. Livestock and their manure emit GHGs equivalent to 13.2 million tons of carbon dioxide each year in California.⁴ In addition, dairy operations emit other GHGs, directly and indirectly, through such things as motor vehicles and equipment, water use, and energy use.

As the major dairy producing county in the nation, the approach taken by Tulare County in carrying out its responsibilities under CEQA will have a major effect on emissions of GHG from California dairies and other animal operations and could set the standard for other counties in evaluating and mitigating methane emissions from dairies.

2. Climate Change Background

Before discussing the General Plan and legal adequacy of the DEIR, it is important to understand why human-caused climate change is of particular concern to California and to the San Joaquin Valley.⁵

The impacts of climate change are not limited to remote parts of the world – they are

² California Department of Food and Agriculture, *California Agricultural Resource Directory 2007*, 2007, at p. 97.

³ See Shultz, Tom, University of California Cooperative Extension, “The Dairy Industry in Tulare County” (May 2000), available at www.cetulare.ucdavis.edu/pubdairy/industry.pdf.

⁴ California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*, December 2006, Table 6.

⁵The physics of climate change are well described in the Intergovernmental Panel on Climate Change, Fourth Assessment Report, “Frequently Asked Questions” (available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_FAQs.pdf) and need not be repeated here.

being felt in California today through damage to agriculture, losses to the Sierra snowpack, higher risks of fire, eroding coastlines, and habitat modification and destruction. Furthermore, global warming affects public health directly, through longer and more extreme heat waves causing heat-related illnesses, and deaths, and indirectly as higher temperatures favor the formation of ozone and particulate matter in areas that already have severe air pollution problems.⁶

The impacts of climate change are of particular concern to the San Joaquin Valley and Tulare County, especially in the areas of agriculture and public health. According to a whitepaper from the California Climate Action Team on the impacts of climate change on agriculture, "California's cornucopia is predicated on its current climate and its supply and distribution of irrigation water[.]"⁷ Rising temperatures will adversely impact agricultural conditions in numerous ways, including stimulating more weeds and insect pests, interfering with pollination, and preventing the occurrence of adequate winter chill necessary for fruit trees to flower.⁸ Higher temperatures due to global warming also have an impact on Tulare County's dairy industry by causing lower milk production and heat-related animal deaths.⁹

The health related impacts of climate change are also of substantial importance to the County. The San Joaquin Valley Air Basin ("Basin") has severe air pollution problems; it is a non-attainment area for ozone, particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}). (DEIR at pp. 2-8 to 2-9, 3-12.) The American Lung Association ranks the Visalia-Tulare-Porterville area as having the fourth highest ozone pollution levels in the nation. A recent Stanford University study details how for each increase in temperature of 1 degree Celsius (1.8 degrees Fahrenheit) caused by climate change, the resulting air pollution would lead to about a thousand additional deaths annually and many more cases of respiratory illness and asthma.¹⁰

⁶A summary of impacts to California, together with citations, is available on the Attorney Generals' website at <http://ag.ca.gov/globalwarming/impact.php>.

⁷California Climate Change Center, *An Assessment of the Impacts of Future CO2 and Climate on Californian Agriculture* (March 2006) at p. 1, available at <http://www.energy.ca.gov/2005publications/CEC-500-2005-187/CEC-500-2005-187-SF.PDF>.

⁸*Id.*, Abstract.

⁹ Dairy producers will no doubt recall the extended heat wave of 2006, which caused the death of thousands of cows and created a backlog of carcasses for disposal. Williams, "Dairy producers regroup after cow deaths," *Bakersfield Californian* (Aug. 5, 2006) available at <http://www.bakersfield.com/102/story/66292.html>. While this single incident cannot be attributed to climate change, we can expect an increased risk of such events as average temperatures rise.

¹⁰ Jacobson, Mark Z., *On the causal link between carbon dioxide and air pollution mortality*, *Geophysical Research Letters*, Vol. 35 L03809 (2008).

These effects will be disproportionately felt in areas where the pollution is already severe, such as the San Joaquin Valley.

The atmospheric concentration of CO₂, the leading GHG, is now at least 385 parts per million (ppm),¹¹ higher than any time in the last 650,000 years,¹² rising at about 2 ppm per year. According to experts, an atmospheric concentration of CO₂ exceeding 450 ppm is almost surely dangerous to human life because of the climate changes it will cause.¹³ Thus, we may be fast approaching a “tipping point,” where the increase in temperature will create unstoppable, large-scale, disastrous impacts for all the inhabitants of the planet.¹⁴

We must take prompt action and control of our future. In the words of Rajendra Pachauri, Chairman of the United Nations Intergovernmental Panel on Climate Change, “If there’s no action before 2012, that’s too late. What we do in the next two to three years will determine our future. This is the defining moment.”¹⁵

3. The DEIR Does Not Comply with CEQA

a. The DEIR Does Not Consider an Adequate Range of Feasible Mitigation

CEQA was enacted to ensure that public agencies do not approve projects unless feasible measures are included that mitigate the project’s significant environmental effects.¹⁶ CEQA therefore requires that “[e]ach public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so.”¹⁷ The

¹¹ U.S. Department of Commerce, National Oceanic & Atmospheric Administration, “Trends in Atmospheric Carbon Dioxide - Mauna Loa,” available at <http://www.esrl.noaa.gov/gmd/ccgg/trends/>.

¹² IPCC 4th, WGI, Frequently Asked Question 7.1, *Are Increases in Atmospheric Carbon Dioxide and Other Greenhouse Gases During the Industrial Era Caused by Human Activities?* http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_FAQs.pdf.

¹³ See http://www.nasa.gov/centers/goddard/news/topstory/2007/danger_point.html.

¹⁴ See *ibid*.

¹⁵ Rosenthal, *U.N. Chief Seeks More Leadership on Climate Change*, N.Y. Times (November 18, 2007).

¹⁶ Pub. Res. Code, § 21002.

¹⁷ Pub. Res. Code, § 21002.1, subd. (b); *City of Marina Board of Trustees* (2006) 39 Cal.4th 341, 360.

mitigation measures must be enforceable and the benefits quantifiable, rather than just vague policy statements.¹⁸

The DEIR acknowledges that the methane emissions from the cattle and manure constitute the bulk of the GHG emissions from the Project, accounting for an increase of 27,136 metric tons of CO₂ equivalents.¹⁹ (DEIR at p. 3-55.) The only mitigation measure imposed, however, to specifically control methane emissions from the manure piles is the following: “Maintain an impervious covering on silage and manure piles year-round.” The DEIR makes no effort to quantify the amount of reduction in GHG, if any, that will result from the coverage.

The DEIR summarily states, without support or analysis, that any further mitigation measures for methane would “require regulatory action or significant technological advances.” (DEIR at p. 3-57.) This latter statement ignores one of the major technologies for eliminating methane – the methane digester, which was specifically mentioned in both our December 26, 2007, letter and the San Joaquin Valley Air Pollution Control District’s December 10, 2007, letter on the notice of preparation. Methane digesters process animal waste under anaerobic conditions, yielding methane gas that is collected on site. The collected methane can be used to generate electricity that can be used at the facility or sold to a utility company, bringing in revenue to the dairy. Or, the collected methane can be injected into an existing natural gas distribution line and sold directly to a utility; this has the additional advantage of avoiding the production of combustion byproducts.

Methane digesters are increasingly being used on dairies in California. The California Energy Commission has provided grants to 14 dairies to generate electricity from animal waste, and these dairies are producing 3.5 megawatts of power.²⁰ Also, the California Public Utility Commission has approved a contract between Pacific Gas & Electric Company and a Bakersfield company to produce 8,000 million British thermal units (Btu) of methane from dairy farms in central California.²¹ The U.S. Environmental Protection Agency reports that methane digesters at 15 California livestock facilities produced the equivalent of 23,265 megawatt-hours of energy

¹⁸See Publ. Res. Code, § 21081.6, subd. (b); *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261 (agency must take steps to ensure mitigation measures are fully enforceable through permit conditions, agreements, or other measures).

¹⁹ Table E-1 of the DEIR, “Summary of Potentially Significant Impacts, Mitigation Measures, and Mitigation Monitoring Agencies” erroneously states that the level of significance of methane emissions after mitigation is “none.” (DEIR at p. ES-9.) The table must be corrected so that it is consistent with conclusions elsewhere in the DEIR. (DEIR at pp. ES-10, 3-46, 5-12.)

²⁰California Energy Commission, *Dairy Power Production Program, Dairy Methane Digester System 90-Day Evaluation Report, Eden-Vale Dairy*, December 2006 at p. 4, available at <http://www.energy.ca.gov/2006publications/CEC-500-2006-083/>

²¹ http://cpuc.ca.gov/Final_resolution/68429.htm

in 2007.²² Finally, consistent with this trend, Fresno County has recently issued permits to two dairies to use methane digesters.²³ The AgSTAR program, a joint project of the U.S. EPA, Department of Agriculture, and Department of Energy,²⁴ provides resources about farm methane digesters, including technical advice, financial assistance information, and a free software program to help farmers determine the feasibility of recovering methane from their operations.

Thus, technology is available and increasingly being employed to turn a harmful emission into useful energy output. The County must therefore revise the DEIR to discuss the feasibility of requiring the Dairy to include a methane digester as a mitigation measure and must quantify the reduction in methane that will result from such a digester.

Finally, in addition to methane from manure, methane is also produced as part of the cattle's normal digestive process when the animal exhales or belches the gas through its mouth and nostrils. This is known as enteric emissions. An appendix to the DEIR indicates that the enteric methane emissions from the cattle are a significant portion of the total emissions.²⁵ The DEIR, however, does not specifically discuss whether enteric GHG emissions have been mitigated and whether additional mitigation is feasible.²⁶ The DEIR should include this discussion.

b. The Mitigation Measures That Are Imposed Are of Unknown Effectiveness or Vague and Unenforceable.

The DEIR acknowledges that, apart from the methane produced by the cattle and the manure, the operation of the Project will produce GHG emissions from farm equipment, electricity consumption, truck travel, etc. (DEIR at p. 3-55.) The only mitigation measure imposed on the dairy construction and operation requires the project proponent to "construct the milking barn facilities to be energy efficient with respect to space heating/cooling and building insulation; install energy efficient heating/cooling equipment; use fluorescent and or LED lighting throughout the facility." (*Ibid.*) Apart from the requirement to use fluorescent and/or LED lighting, the remainder of the mitigation measure is vague and general. There is no

²² U.S. Environmental Protection Agency ("EPA"), The AgSTAR Program, "Accomplishments," <http://www.epa.gov/agstar/accomplish.html>.

²³ Fresno County Notices of Intention to Adopt a Mitigated Negative Declaration (Unclassified Conditional Use Permits 3215-3218)

²⁴ <http://www.epa.gov/agstar/resources.html>

²⁵ Air Quality Methodology and Assumptions, Buena Vista Dairy, Tulare County, California (October 3, 2007) at p. 24.

²⁶ See U.S. EPA "Animal Feeding Operations - Best Management Practices (BMPs): Methane," <http://www.epa.gov/agriculture/anafobmp.html#Methane>.

measurable standard to determine whether the project proponent has complied with the requirement or not. Further, there are no measures to mitigate the emissions from other sources such as truck travel and employee and visitor travel.

Rather than merely adopting a generic statement about energy efficiency, the County should analyze and impose specific feasible mitigation measures on the Project to ensure that it is energy efficient. For example, requiring “cool” roofing materials with high reflectivity and emittance can reduce ambient temperatures and the need to cool the animals through other energy-intensive means.²⁷ More efficient milking vacuums and larger ceiling fans can significantly reduce dairy electricity consumption.²⁸ Solar hot water systems can heat water used in cleaning and solar panels or wind turbines or other alternative energy sources can provide power for dairy electricity needs.

If, after analyzing and imposing all feasible on-site mitigation measures, the County determines that remaining GHG emissions are still significant, the County should also analyze whether further mitigation should be required in the form of payments to mitigate greenhouse gas emissions off-site. Buena Vista Dairy could, for example, fund local off-site projects (e.g., alternative energy projects) that will reduce GHG emissions, or could purchase “credits” from another entity that will fund such projects locally. The San Joaquin Valley Air Pollution Control District would be an excellent contact to help the applicant identify such projects. The County should ensure that any mitigation taking this form is specifically identified and that such mitigation will in fact occur.

c. The DEIR Rejects Alternatives Without Adequate Analysis

CEQA further provides that the EIR must discuss a “range of reasonable alternatives to the project or to the location of the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.”²⁹ The EIR must include sufficient information about each alternative to provide meaningful analysis and comparison,³⁰ and must consider alternatives that could eliminate significant effects or reduce them to a less than significant level, even if the alternatives could impede the attainment of the

²⁷See U.S. EPA’s Cool Roofs website at <http://www.epa.gov/hiri/strategies/coolroofs.html>; see also Lawrence Berkeley National Laboratory, Urban Heat Island Group, Cool Roofing Database at <http://eetd.lbl.gov/CoolRoofs>.

²⁸ Southern California Edison, “VFDs Save Energy in Milking Vacuum Systems,” <http://www.sce.com/RebatesandSavings/LargeBusiness/Agricultural/VFDSavesEnergy/>; Shultz, Thomas A. and Williams, Paul, “Electric Power Saving Fan Options For Cow Cooling,” http://www.energy.ca.gov/process/agriculture/ag_pubs/CalFan.pdf.

²⁹ Guidelines, § 15126.6, subd. (a).

³⁰ Guidelines §, 15126.6, subd. (d).

project's objectives to some degree.³¹

The DEIR addresses five alternatives to the Project: the no-project alternative; two alternate site alternatives; and two reduced herd size alternatives (60 percent and 40 percent reduced). The DEIR concludes that the air impacts from the herd size alternatives will be reduced, but still significant. Regarding water impacts, the DEIR notes that the two reduced herd size alternatives will have less than significant impacts on water quality, in contrast to the actual project which has a potentially significant impact on water quality. (DEIR at p. 4-2).

Despite the clear environmental benefits of the reduced herd sized alternatives, the DEIR rejects both of the alternatives as economically infeasible because the lesser herd sizes will not permit a financeable return on investment. In support of this statement, the DEIR refers to the analysis contained in Appendix T. (DEIR at p. 4-17.) Appendix T does not, however, support the conclusions of the DEIR. Appendix T concludes that the full herd size is the "best cash flow scenario." It does not conclude that the smaller herd size alternatives are not financially viable. Moreover, Appendix T was prepared in October 2006 and appears to have been based on milk prices in California as of April 2006. Because the price of milk has increased significantly from two years ago, the analysis is out of date.³² Thus, the analysis in Appendix T does not support the DEIR's conclusion that the smaller herd size alternatives are not financially viable.

4. Conclusion

Tulare County is poised to approve a major new dairy that it acknowledges will have significant impacts on the environment, including impacts caused by GHG emissions. Given these impacts, the County can no longer continue "business as usual" and issue permits for new dairies or to increase the size of existing dairies without ensuring that the environmental effects, including the effects caused by emissions of GHGs, are carefully examined, fully disclosed, and mitigated to the extent feasible. In light of the fact that the DEIR does not impose feasible and enforceable mitigation measures, does not quantify the efficacy of the mitigation measures, and rejects alternatives without proper analysis, Tulare County cannot simply conclude that the project's effects are significant and unavoidable and then issue a statement of overriding

considerations.³³ The DEIR does not provide the analysis required by CEQA and is therefore not

³¹ Guidelines, § 15126.6, subd. (b); see also *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1456-57 [cannot exclude alternative simply because it impedes project objectives or is more costly].

³² See California Department of Food and Agriculture, "Excel File of California Milk Prices," available at <http://www.cdffa.ca.gov/dairy/xls/cal dairyprices.xls>.

³³ See *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1371 [lead agency cannot simply conclude that there are overriding considerations that would justify a significant and unavoidable effect without fully analyzing the effect].

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in compliance with the law. It must be revised.

Sincerely,

/S/

SUSAN S. FIERING
Deputy Attorney General

For EDMUND G. BROWN JR.
Attorney General