EDMUND G. BROWN JR.
Attorney General

State of California
DEPARTMENT OF JUSTICE

1515 CLAY STREET, 20TH FLOOR
P.O. BOX 70550
OAKLAND, CA 94612-0550

Public: (510) 622-2100
Telephone: (510) 622-2142
Facsimile: (510) 622-2270
E-Mail: Susan.Fiering@doj.ca.gov

December 26, 2007

By Overnight
Samantha Franks
Tulare County Resource Management Agency
5961 S. Mooney Boulevard
Visalia, CA 93277

RE: Notice of Preparation for Buena Vista Dairy (PSP 99-046)

Dear Ms. Franks:

The Attorney General submits these comments pursuant to the California Environmental Quality Act ("CEQA") on the Notice of Preparation of a draft environmental impact report ("EIR") for the Buena Vista Dairy ("the project").[1] The Buena Vista dairy will create a new dairy with a maximum of 3,522 cows and support stock on a 72-acre site in Tulare County. If not properly mitigated, the greenhouse gas (GHG) emissions from this new dairy could be the equivalent of the yearly emissions of several thousand new cars on the road.

GHG emissions and climate change are the most significant environmental issues of our time, and there is a growing recognition – in the science and in laws such as California's Global Warming Solutions Act – that profound changes are required. In fact, the recent Bali accord recognized that we must cut GHG emissions from 25 to 40% below 1990 levels by 2020 which is even more aggressive than the California reduction requirements under AB 32, to avoid the most catastrophic impacts of climate change. Thus, we can no longer dismiss as insignificant any incremental changes in GHG emissions that contribute to overall global warming.

As the County with the largest number of dairy cows and the most dairies in the State, Tulare must continue its leadership role by examining ways to reduce GHG emissions from this new dairy, as well as from the substantial number of dairies and other animal operations that fall

[1]The 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.

under its jurisdiction. We submit these comments to ensure that the draft EIR addresses the impact of greenhouse gas (GHG) emissions from the proposed new dairy.

Dairies and Greenhouse Gas Emissions

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. Methane is a powerful GHG that has 21 times the global warming potential of carbon dioxide. Livestock and their manure emit green house gases equivalent to 13.2 million tons of carbon dioxide each year in California.[2] In addition, dairy operations emit other GHGs, directly and indirectly, through such things as motor vehicles and equipment, water use, and energy use.

As of 2005, Tulare County had 451,093 dairy cows and 334 dairies, by far the most dairies and cows of any county in the State.[3] Thus, the approach taken by the 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 will set the standard for other counties in evaluating and mitigating methane emissions from dairies.

The Draft EIR Must Calculate and Report the GHG Emissions from the Dairy

In order adequately to address the effect of methane emissions from the new dairy, the draft EIR should calculate the methane emissions from the dairy's operations, including emissions from the cows themselves and from the dry manure, as well as the significant emissions from the manure lagoons. The draft EIR will best serve CEQA's goal of informing the public and decision makers about impacts of the project if emissions are expressed in terms of their global warming potential. The global warming potential of a gas is usually expressed as the quantity of carbon dioxide that has the same warming impact as the quantity of gas in question. For example, because methane has 21 times the global warming potential of carbon dioxide, 1,000 tons of methane will have the global warming potential of 21,000 tons of carbon dioxide.[4]

Converting emissions of methane and other GHGs to their carbon dioxide equivalents helps to put the impact of a project in context for the public and decision makers, because the emissions from various projects or activities can be more easily compared and evaluated. Once the emissions have been converted to carbon dioxide equivalents, it is also possible to compare

---

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

[3] California Department of Food and Agriculture, *California Agricultural Resource Directory 2006*, 2006, at p. 97.

[4] U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 –2005*, April 15, 2007, at pp. 1-6 to 1-7.

them to what would be emitted by cars on the road,[5] a comparison that the average citizen will readily understand.

The Draft EIR should also quantify the project's other direct and indirect GHG emissions from such things as equipment and vehicle, water, and energy use.

The Draft EIR Must Evaluate Mitigation Measures to Reduce the Global Warming Impact of GHG Emissions from the Dairy

The Draft EIR should evaluate the feasibility of mitigation for the dairy's anticipated methane emissions. Many options may be appropriate, depending on the project. To take just one example, some dairies in California are using methane digesters to reduce methane emissions and produce electricity. 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 on the farm itself, or the electricity can be sold back to the utility, bringing in revenue to the dairy. In this manner, GHG emissions from the farm are reduced, and on-site power generation avoids the need for off-site power generation and emissions of GHG.

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.[6] Also, the California Public Utility Commission has already approved a contract between Pacific Gas & Electric Company and a company called BioEnergy Solutions in Bakersfield to produce 8,000 million British thermal units (Btu) of methane from dairy farms in central California.[7] The AgSTAR program, a joint project of the U.S. Environmental Protection Agency, Department of Agriculture, and Department of Energy,[8] 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.

Technology is therefore available to turn a harmful emission into useful energy output. The draft EIR should examine the feasibility of methane digesters and other technology to mitigate methane releases from the new dairy. The Draft EIR should also examine the feasibility of other options for reducing the global warming impact of the dairy expansion, such as the

---

[5] Annual emissions from a typical passenger vehicle are the same as 5.5 tons of carbon dioxide. (U.S. Environmental Protection Agency, *Emission Facts*, EPA420-F-05-004, February 2005, at p.2, available at http://www.epa.gov/otaq/climate/420f05004.pdf.)

[6] California Energy Commission, *Dairy Power Production Program, Dairy Methane Digester System 90-Day Evaluation Report, Eden-Vale Dairy*, December 2006 at p. 4.

[7] http://cpuc.ca.gov/Final_resolution/68429.htm

[8] http://www.epa.gov/agstar/resources.html

purchase of GHG offsets or revised dairy operational procedures.

In addition, the Draft EIR should evaluate other measures to minimize or offset the impacts caused by other dairy GHG emissions. The document should discuss conservation practices that would minimize the use of fossil-fuel vehicles and conserve water and energy. It should also consider whether other, more innovative mitigation measures would be reasonable and feasible for this project. Such measures may include, for example, "cool" roofing materials with high reflectivity and emittance, which would reduce ambient temperatures and the need to cool animals through other energy-intensive means;[9] solar hot water systems for heated water used in cleaning; and solar panels or wind turbines or other alternative energy sources for electricity generation.

Because of the large number of dairy farms and cows located within its jurisdiction, Tulare County has the opportunity to become a leader in reducing the global warming impact of livestock. We encourage the County to begin now to analyze the global warming impacts of the new dairy and possible mitigation measures in a clear and appropriately detailed document. We appreciate the opportunity to comment on the document and would be happy to meet with County staff to discuss these comments.

Sincerely,

/S/

SUSAN S. FIERING
Deputy Attorney General

For EDMUND G. BROWN JR.
Attorney General

[9]See 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.