

RESPONSE TO COMMENTS

May 2008 Supplemental Environmental Impact Report for the Van Der Kooi Dairy Project

COMMENT LETTER 1: Center for Biological Diversity/Earth Justice/Sierra Club (July 3, 2008)

Comment 1-1: Commenter states that the Van Der Kooi Dairy releases large quantities of ammonia, methane, and nitrous oxides and other greenhouse gases, and unmitigated increases of those will cumulatively interfere with the emission reductions necessary to stabilize the climate by 2050; that the Supplemental Environmental Impact Report (SEIR) fails to adequately consider environmental impacts and adopt all available, feasible, and achieved-in-practice mitigation measures by ignoring the Project's sources of green house gases (GHG); and fails to require off-sets for unmitigated emissions.

Response 1-1: Changes have been incorporated into the project, which substantially reduce project related impacts of GHG emissions. As discussed in the SEIR, the District has imposed permit conditions which reduce GHG emissions. Furthermore, the project proponent must comply with Best Available Control Technology (BACT), which further reduces the project's overall impact on air quality. The District's engineering evaluation demonstrates that compliance with District permit requirements, combined with project design elements, will reduce total operational GHG emissions to below the District's proposed significance threshold of 42,000 tons CO₂ equivalents per year. Thus the impact of GHG emissions is considered less than significant. Per CEQA Guidelines §15126.5(a)(1)(D)(3), mitigation is not required for effects which are not found to be significant.

Comment 1-2: The commenter states that the SEIR fails to provide an adequate scientific and regulatory context for addressing global warming; ignores the large amount of literature on California-and-dairy industry-specific climate change impacts. The SEIR should contain a discussion of the impact of global warming on California by providing an accurate summary of the scientific literature on climate change

Response 1-2: The SEIR discusses the current scientific understanding of GHG emissions from dairy operations, GHG emissions and their potential impact of global climatic change, and the status of the State of California's efforts to establish a regulatory framework for reducing local GHG emissions. Additionally, the SEIR discusses project design elements and District permit conditions which reduce the projects GHG emissions. The discussion of GHG emissions presented in the SEIR adequately informs the public of the project's potential impact of global climatic change and constitutes a good faith effort at full disclosure.

Comment 1-3: The commenter states that “the SEIR cannot legitimately rely on the significance threshold of 42,000 tons because it is not supported by substantial evidence and there is a fair argument that that environmental effects may still be significant at levels below this threshold. The Regulated Emissions Inventory Capture methodology is fundamentally flawed because it is essentially ineffective at reducing greenhouse gas emissions, is inconsistent with the emissions reduction mandates of AB 32 and Executive Order S-3-05, and is premised on a meaningless comparison with criteria pollutant thresholds under the Clean Air Act”; and other proposed thresholds, aside from the Threshold 2.1 (threshold of zero) and a 900-ton CO₂ Eq Threshold, the proposed threshold should not be adopted.

Response 1-3: The California Air Resources Board is the primary state agency developing policy and guidance to evaluate and mitigate the effects of GHG emissions. Until definitive guidance is established the District evaluates project emissions of GHG on a case-by-case basis. The District applied the best available scientific information in determining the significance of GHG emissions from this project.

Comment 1-4: Commenter states that “the Regulated Emissions Inventory Capture method has absolutely no relationship to the greenhouse gas emission reduction target set by the State of California”; there is no relationship between the major source threshold and the emissions inventory; and that the significance thresholds in the Clean Air Act do not vary from area to area, or state to state depending on the local emissions inventory, nor do the thresholds change proportionately as inventories increase or decrease in time.

Response 1-4:

Please refer to Response 1-3.

Comment 1-5: The commenter states “the SEIR inexplicably and illegally attributes 1,950 of the proposed dairy’s total animals to an “existing dairy,” excluding their emissions from project totals.”

Response 1-5: The scope of the current project is the expansion of an existing dairy operation from a maximum capacity of 1,700 milk cows and 250 dry cows to a maximum capacity of 3,200 milk cows, 480 dry cows, a total of 2,060 heifers and 380 calves. The pre-existing operation with a maximum capacity of 1,950 animals precedes both County and Air District permit requirements and is therefore outside the scope of the current project.

Comment 1-6: The commenter states that SEIR’s use of emission factors for dairy cows are not supported.

Response 1-6: The comment is conclusory, unsupported by factual information. Engineering Evaluation conducted for this project (ATC project C-1053434) lists the

emission factors that were used in the analysis and its source. The emission factors used by the District are supported by the best available scientific information.

Comment 1-7: The commenter states that the “Project GHG emissions calculations fail to include carbon dioxide emissions from dairy animals.”

Response 1-7: There is no available emission factor for carbon dioxide specifically. Therefore, the District uses CO2 equivalents in addressing these emissions. This issue was addressed in the SEIR.

Comment 1-8: The commenter recommends that the Mitigated Negative Declaration (MND) must also analyze black carbon emissions resulting from the Project and makes the following points:

- Black carbon has a significant impact on global warming, and mitigation can provide immediate significant climate and health benefits.
- Analyzing particulate matter is insufficient to address black carbon.
- Methods are available to specifically quantify black carbon emissions from the Project.

Response 1-8: Black carbon emissions are addressed as particulate matter emissions. Mitigation measures regarding emissions from construction (Carbon Monoxide (CO), Reactive Organic Gases (ROG), Nitrogen Oxide (NOx), Sulfur Dioxide SO2), Particulate Matter (PM10) Fine Particulate Matter (PM2.5)) are discussed in the Draft EIR and are added as conditions of the Authority to Construct.

Comment 1-9: Proposed mitigation measures are inadequate and available measures are insufficiently considered.

- a. Anaerobic digesters
- b. Enclosures vented to biofilters
- c. Mitigation targeting black carbon emissions

Response 1-9: Please refer to Response 1-1.

Comment 1-10: The commenter states that the Project’s impacts have not been fully mitigated to the extent feasible because the EIR does not offset the remainder of the Project’s greenhouse gas emissions.

Response 1-10: Please refer to Response 1-1.

Comment 1-11: The commenter states that this project constitutes a major source, a major modification, and a federal major modification and should be regulated as such and not as a minor source as determined by the District under its New Source Review.

Response 1-11: Please refer to Response 4-2.

Comment 1-12: The commenter states that there are concerns with District's reliance on lagoon liners under Title 27 and its failure to disclose or mitigate likely groundwater pollution from the Project.

Response 1-12: The comment is directed towards an impact that was fully characterized in the EIR and finalized by the District in November 2007. The comment is outside the scope of the SEIR.

COMMENT LETTER 2: Native American Heritage Commission (June 6, 2008)

Comment 2-1: The Commission recommends that the following be addressed:

- District to contact the appropriate California Historic Resources Information Center for possible "recorded sites" in locations where the development will or might occur.
- If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
- Contact the Native American Heritage Commission for a Sacred Lands File search of the project area and information on tribal contacts in the project vicinity.
- Lack of surface evidence of archeological resources does not preclude their subsurface existence.
- Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.
- Lead agencies should consider avoidance, as defined in Section 15370 of the California Code of Regulations (CEQA Guidelines), when significant cultural resources are discovered during the course of project planning and implementation.

Response 2:1: As previously stated in Section Four- Responses to Comments of the Final Environmental Impact Report dated November 2007, a cultural resource records search (RS#06-057) of the dairy facilities site was completed by the Southern San Joaquin Valley Historical Resources Information Center on February 13, 2006. According to the Information Center's records, there are no known cultural resources within the subject property of within a half-mile radius of the project site that are listed in the National Register of Historic Places, California Points of Historic Interest, California Historic Resources Inventory or the California State Historic Landmarks (Southern SJV Information Center, November 2001, Appendix M of the Final EIR)

If, in the course of project construction or operation, any archaeological or historical resources are uncovered, discovered, or otherwise detected or observed, activities within 50 feet of the find area shall cease. A qualified archaeologist shall be contacted and advise the SJVAPCD of the site's significance. If the findings are deemed significant by the SJVAPCD, appropriate mitigation measures shall be required prior to any resumption of work in the affected area of the project.

If, in the course of project construction or operation, any skeletal remains are uncovered, discovered, or otherwise detected or observed, activities in the affected area shall cease. A qualified archaeologist, the SJVAPCD and local Native American organizations shall be consulted, and appropriate measures shall be required that may include avoidance of the burial site or reburial of the remains.

Mitigation Measure #3.5.1 addresses the discoveries noted above. This measure will assure that appropriate procedures are followed and treated in accordance with the recommendations provided by the Native American Heritage Commission, and local Native American organizations. Currently, there are no changes to the existing conditions and no discoveries of any archaeological or historical resources were made.

COMMENT LETTER 3: California Rural Legal Assistance, Inc. (March 24, 2008) - Comments on the ATC application

General Response: Although the comments were received before the May 20, 2008 start date of the commenting period for the Supplemental Environmental Impact Report (SEIR) for the Project and address the Authority to Construct application for the Dairy, the District appreciates receiving the comments and provides the following responses.

Comment 3-1: The ATC/EIR does not adequately analyze the probable nuisance or human health impacts of the expansion. The EIR states that Hydrogen Sulfide is very toxic. At the same time, it states that there is no emission factor to quantify emissions. The report thus concludes that because there are no accepted significance thresholds for this highly toxic emission, the emissions are deemed to be less than significant.

Response 3-1: As stated in the engineering evaluation, an approved hydrogen sulfide emission factor does not exist for dairy operations. However, a recent study conducted by Dr. Schmidt entitled *On-site Dairy Emissions Using Flux Chambers*, suggests an H₂S emission factor in the range of 0.02 lbs/hd-yr to 0.3 lbs/hd-yr (0.16 lbs/hd-yr Average). The District has not yet properly vetted this study. In addition, before the District can establish an appropriate H₂S emission factor, other studies must also be evaluated. Until that scientific review process is complete and the District has had opportunity to consider public comments on the emission factor, the premature, and therefore potentially flawed, use of such emissions data would be inconsistent with good governance and good science. The District expects that several of the VOC control technologies/mitigation measures required of the dairy will result in H₂S and odor reductions.

In response to the comment, the District performed a Health Risk Assessment using the worst case emission factor of 0.3 lb/hd-yr for each animal regardless of size, and determined that this resulted in an increase of the prioritization score by only 0.1 concluding that there is no measurable acute, chronic or cancer risk. This analysis strengthens the District's original conclusion that impacts from H₂S would be less than

significant. The Final SEIR has been revised to include a discussion of this assessment.

Comment 3-2: Commenter expresses that the ATC/EIR does not adequately address water issues in regards to relying on the existing standard for lagoon liners found in Title 27 of the California Code of Regulation.

Response 3-2: Please refer to Response 1-12.

COMMENT LETTER 4: Patience Milrod (March 19, 2008) - Comments on the ATC application

General Response: Although the comments were received before the May 20, 2008 start date of the commenting period for the Supplemental Environmental Impact Report (SEIR) for the Project, the District appreciates receiving the comments and provides the following responses.

Comment 4-1: The commenter states that Fresno County must be the lead agency on this project (“agency with responsibility for “the total environment” must take responsibility for evaluating environmental impacts.”)

Response 4-1:

As stated in our previous responses to comments, per Brian Ross of the County of Fresno, the County is not the Lead Agency for this project due to the fact that on April 23, 2002, and January 29, 2003, the County of Fresno issued building permits to Charles Van Der Kooi for the expansion of an existing dairy located on land that is zoned AE-20 (Exclusive Agricultural Zone 20 Acre Minimum). The Fresno County Planning Department has determined that the proposed project is an allowed use and only building permits are required. As the issuance of building permits is considered ministerial, Fresno County has no discretionary approval over the Project. The County’s approval occurred before the applicant applied to the San Joaquin Valley Air Pollution Control District (District) for the dairy expansion in August 18, 2005, and well before the adoption of Fresno County’s dairy ordinance on November 26, 2007.

The District has discretionary approval power over the Project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201). By ministerially approving the project, the County of Fresno left the District and the California Regional Water Quality Control Board (CRWQCB) as the remaining public agencies with discretionary approval power over the project. The District recognizes that while the CRWQCB would issue discretionary permits, the District was the first agency with discretionary approval power to act on the project. As such, the District is the public agency having principal responsibility for approving the Project and serves as Lead Agency (California Environmental Quality Act Guidelines 15367). California Environmental Quality Act Guidelines § 15051 provides that in situations where more than one public agency have

equal authority over a project, the first agency to act on the project will serve as Lead Agency.

Comment 4-2: The commenter states the District inappropriately concludes that the project is not a major source of air pollution by illegally categorizing most of the emissions at the project as fugitive emissions.

Response 4-2: Pursuant to Section 3.25 of District Rule 2201, a major source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the threshold values.

In determining whether a facility is a major source, fugitive emissions are not counted unless the facility belongs to certain specified source categories. 40 CFR 71.2 (Definitions, Major Source (2)) states the following:

(2) A major stationary source of air pollutants or any group of stationary sources as defined in section 302 of the Act, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source: (i) Coal cleaning plants (with thermal dryers); (ii) Kraft pulp mills; (iii) Portland cement plants; (iv) Primary zinc smelters; (v) Iron and steel mills; (vi) Primary aluminum ore reduction plants; (vii) Primary copper smelters; (viii) Municipal incinerators capable of charging more than 250 tons of refuse per day; (ix) Hydrofluoric, sulfuric, or nitric acid plants; (x) Petroleum refineries; (xi) Lime plants; (xii) Phosphate rock processing plants; (xiii) Coke oven batteries; (xiv) Sulfur recovery plants; (xv) Carbon black plants (furnace process); (xvi) Primary lead smelters; (xvii) Fuel conversion plants; (xviii) Sintering plants; (xix) Secondary metal production plants; (xx) Chemical process plants; (xxi) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input; (xxii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels; (xxiii) Taconite ore processing plants; (xxiv) Glass fiber processing plants; (xxv) Charcoal production plants; (xxvi) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or (xxvii) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

Because agricultural operations do not fall under any of the specific source categories listed above, fugitive emissions are not counted when determining if an agricultural operation is a major source. 40 CFR 71.2 defines fugitive emissions as “those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening.”

Since emissions at the dairy are not actually collected, a determination of whether emissions could be reasonably collected must be made by the permitting authority. The California Air Pollution Control Association (CAPCOA) prepared guidance in 2005 for estimating potential to emit of Volatile Organic Compounds from dairy farms. The

guidance states that *“VOC emissions from the milking centers, cow housing areas, corrals, common manure storage areas, and land application of manure are not physically contained and could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening. No collection technologies currently exist for VOC emissions from these emissions units. Therefore, the VOC emissions from these sources are considered fugitive.”* The guidance also concludes that, because VOC collection technologies do exist for liquid waste systems at dairies, *“... the VOC emissions from waste lagoons and storage ponds are considered non-fugitive.”* The District has researched this issue and concurs with the CAPCOA assessment, as discussed in more detail below.

Milking Center: The mechanical system for the milking parlors can be utilized to capture the gases emitted from the milking parlors; however in order to capture all of the gases, and to keep an appropriate negative pressure throughout the system, the holding area would also need to be entirely enclosed. No facility currently encloses the holding area since cows are continuously going in and out of the barn throughout the day. The capital required to enclose this large area would also be significant. Since the holding area is primarily kept open, the District cannot reasonably demonstrate that emissions can pass through a stack, chimney, vent, or other functionally equivalent opening.

Cow Housing: Although there are smaller dairy farms that have partially enclosed freestall barns, these barns are not fully enclosed and none of the barns have been found to vent the exhaust through a collection device. The airflow requirements through dairy barns are extremely high, primarily for herd health purposes. The airflow requirements will be even higher in the San Joaquin valley, where temperatures reach in excess of 110 degrees in the dry summer. Collection and control of the exhaust including the large amounts of airflow have not yet been achieved by any facility. Due to this difficulty, the District cannot reasonably demonstrate that emissions can pass through a stack, chimney, vent, or other functionally equivalent opening.

Manure Storage Areas: Many dairies have been found to cover dry manure piles. Covering dry manure piles is also a mitigation measure included in District Rule 4570. However, the District was not able to find any facility, which currently captures the emissions from the storage or handling of manure piles. Although many of these piles are covered, the emissions cannot easily be captured. Therefore, the District cannot reasonably demonstrate that these emissions can pass through a stack, chimney, vent, or other functionally equivalent opening. In addition, emissions from manure piles have been shown to be insignificant from recent studies.

Land Application: Emissions generated from the application of manure on land cannot reasonably be captured due to the extremely large areas, in some cases thousands of acres, of cropland at dairies. Therefore, the District cannot reasonably demonstrate that these emissions can pass through a stack, chimney, vent, or other functionally equivalent opening.

Feed Handling and Storage: The majority of dairies store the silage piles underneath a tarp or in an agbag. The entire pile is covered except for the face of the pile. The face of the pile is kept open due to the continual need to extract the silage for feed purposes. The silage pile is disturbed 2-3 times per day. Because of the ongoing disturbance to these piles, it makes it extremely difficult to design a system to capture the emissions from these piles. In fact, as far as the District is aware, no system has been designed to successfully extract the gases from the face of the pile to capture them, and, as important, no study has assessed the potential impacts on silage quality of a continuous air flow across the silage pile, as would be required by such a collection system. Therefore, the District cannot demonstrate that these emissions can be reasonably expected to pass through a stack, chimney, vent, or other functionally equivalent opening.

As discussed above, the VOC emissions from the milking center, cows housing, manure storage areas, land application of manure and feed handling and storage are considered fugitive. The District has determined that control technology to capture emissions from lagoons (biogas collection systems, for instance) is in use; therefore, these emissions can be reasonably collected and are not fugitive. Therefore, only emissions from the lagoons, storage ponds, IC engines, and gasoline tanks will be used to determine if this facility is a major source.

COMMENT LETTER 5: Earth Justice (March 24, 2008).

General Response: Although the comments were received before the May 20, 2008 start date of the commenting period for the Supplemental Environmental Impact Report (SEIR) for the Project, the District appreciates receiving the comments and provides the following response for those comments pertaining to the SEIR.

Comment 5-1: “The EIR illegally ignores significant sources of Project greenhouse gas emissions; does not adequately disclose the cumulatively significant impacts from those emissions; inaccurately characterizes or ignores available, feasible, and achieved-in-practice mitigation measures to reduce those impacts; and fails to require offsets for unmitigated emissions...Sufficient mitigation measures must be adopted to ensure that greenhouse gas emissions generated by the Project are fully mitigated.”

Response 5-1: Please refer to Response 1-1

Comment 5-2: Commenter provides an overall description to support the statement that “The EIR must analyze and mitigate the Project’s global warming impacts.”

Response 5-2: Comments noted.

Comment 5-3: The EIR fails to provide an adequate scientific and regulatory context for addressing global warming.

Response 5-3: Please refer to Response 1-2.

Comment 5-4: The EIR's analysis of the Project's Greenhouse Gas emissions is incomplete and inadequate.

Response 5-4: The comment is conclusory, unsupported by factual information. As presented in the SEIR, the District has conducted an engineering evaluation of the project's GHG emissions. The analysis considered all pertinent sources of GHG emissions. This analysis supports the District's determination that impacts from the project's GHG emissions would be less than significant.

Comment 5-5: The EIR must determine the cumulative significance of the Project's Greenhouse Gas pollution and Impact on global warming.

Response 5-5: Please refer to Response 1-1.

Comment 5-6: The EIR fails to adequately consider greenhouse gas emission mitigation measures.

Response 5-6: Please refer to Response 1-1. The SEIR contains the analyses that address GHG emissions from the dairy and mitigation measures.

Comment 5-7: Unmitigated emissions must be offset.

Response 5-7: Please refer to Response 1-1

COMMENT LETTER 6: Earth Justice (March 24, 2008) - Comments on the Notice of Preliminary Decision on ATC

General Response: Although the comments dated March 24, 2008 were regarding the notice of Preliminary Decision for the Authority to Construct for the Van Der Kooi Dairy, the District appreciates receiving the comments and provides the following responses.

Comment 6-1: The commenter is concerned about the air quality impacts from the Van Der Kooi Dairy and states that District's ATC permit has a number of flaws that need to be addressed before permits can be issued for this Project.

Response 6-1: The comment is conclusory, unsupported by factual information. As presented in the SEIR, the District has conducted an engineering evaluation of the project's impact on air quality. The analysis considered emissions of both GHG and criteria pollutants. It is the District's considered opinion that the imposed permit conditions and project design elements appropriately reduce the project's impact on air quality.

Comment 6-2: The commenter states that the emissions for the Project are understated and that District’s analysis ignores “potentially significant emissions” from feed handling, storage operation, and solid manure handling system. Also, the control efficiencies used to determine the controlled emission factors are not supportable; and VOC reductions are double-counted for the “feeding” control measure.

Response 6-2: The District is currently undergoing revisions to the Dairy Emission Factors. The District cannot simply add emissions from studies that have not been properly vetted. One study that we are aware of represents a snapshot of feed storage emissions at one time and location and could be used to argue for higher emissions from feed processes, but in fact we have also received compelling arguments that this same study may significantly overestimate feed emissions. The District has approved a research study which will evaluate a multitude of factors with a representative number of samples, locations, and types of feed. This study is currently underway. Future review of these studies may indeed result in a change in the current emission factors, but until that scientific review process is complete and the District has had opportunity to consider public and expert comment on any proposed changes, the premature, and therefore potentially flawed, use of such emissions data would be inconsistent with good governance and good science.

The District’s PM10 control efficiencies are quite conservative. For example, the WRAP Fugitive Dust Handbook (<http://www.ndep.nv.gov/baqp/WRAP/final-handbook.pdf>) states a control efficiency of 25% for the planting of trees or shrubs. Details of the windbreak are not included in the study and the 25% control does not distinguish between the installation of trees and shrubs. It also appears that this control efficiency is for downwind windbreaks only. The District is going far beyond this handbook’s suggestions by requiring a 3-row downwind windbreak, which includes two tall trees (at least one row of an evergreen species) and one row of shrubs. Additionally, the District has determined that additional control can also be achieved by installing an upwind windbreak, which consists of a tall tree and a shrub. Both of the windbreaks combined will, in our professional judgment, result in a control efficiency much greater than 25%, however, in order to be conservative, the District is only applying a control efficiency of 22.5% for both windbreaks (12.5% for downwind and 10% for upwind).

Another example of the District’s use of a conservative control efficiency in the District’s *Draft Dairy/Feedlot PM₁₀ Mitigation Practices and their Control Efficiencies* is the *Freestall Housing with no Exercise Pens and Non-manure Based Bedding* mitigation measure. The District has concluded that this measure results in a control efficiency of 90%. However, since the cows do not have any contact with manure and have non-manure based bedding, the control efficiency should be closer to 100%. Again, in order to be conservative, a control efficiency of 90% was used. All of the other control efficiencies include a similar degree of conservativeness.

Based on conversations with California State University Fresno researcher Matt Beene, staff believes that there is insufficient evidence to demonstrate that the facilities tested in the research used to determine emission factors fed their herds a diet based on NRC

guidelines. Furthermore, staff believes that, based on conversations with producers, the majority of facilities do not feed a strict NRC based diet; instead they tend to modify it for various reasons to maximize animal health and production and minimize feed costs. Since the practice of feeding animals in accordance with NRC guidelines is not included in the baseline emission factor, this permit requirement will compel Charles Van Der Kooi Dairy to follow the guideline. Therefore, it is our professional opinion that emission reductions will be achieved through this practice.

Comment 6-3: The Project is a major source of Methanol because the methanol emissions from the proposed expansion will be over 10 tons/yr. Therefore, the District must require the Van Der Kooi Dairy to comply with MACT.

Response 6-3: The District does not agree that Charles Van Der Kooi Dairy is a major source of hazardous air pollutants (HAPs) subject to the MACT requirements of the Federal Clean Air Act, Section 112(g) (administered locally through SJVAPCD Rule 2550, Federally Mandated Preconstruction Review for Major Sources of Air Toxics). Under Rule 2550, newly constructed facilities or reconstructed units or sources at existing facilities would be subject to the preconstruction review requirements if they have the potential to emit hazardous air pollutants (air toxics) in "major" amounts (10 tons or more of an individual pollutant or 25 tons or more of a combination of pollutants) and the new units are not already subject to a standard promulgated under Section 112(d), 112(j), or 112(h) of the Clean Air Act."

As discussed on pages 45 through 47 of the application evaluation, based on the current dairy emission factors, emissions of each individual HAP from Charles Van Der Kooi Dairy are expected to be below 10 tons per year and total HAP emissions are expected to be below 25 tons per year. Therefore, this facility will not be a major air toxics source and the provisions of Rule 2550 do not apply.

There are several recently completed and ongoing research studies that that will be considered in future revisions of the current emission factors for dairies, including the study conducted by Dr. Mitloehner of UC Davis. These studies have not been fully vetted or reviewed in the context of establishing standardized emission factors. For instance, although Dr. Mitloehner indicates a high methanol emissions rate from fresh manure in the cited study, in the same report he also indicates that the flushing of manure may significantly reduce alcohol emissions, including methanol.

Future review of these studies may indeed result in a change in the current emission factors and/or control efficiencies for various practices and controls, but until that scientific review process is complete and the District has had opportunity to consider public comment on any proposed changes, the premature, and therefore potentially flawed, use of such emissions data would be inconsistent with good governance and good science.

Comment 6-4: The commenter states that the Dairy is a major source under Title V of the Clean Air Act, that the District inappropriately concluded that the Project is not a

major source of air pollution in the San Joaquin Valley as defined in section 3.25 of District rule 2201, and provides examples regarding emissions from identified sources as reasonably capable of being captured.

Response 6-4: Please refer to Response 4-2.

Comment 6-5: The commenter states that the September 21, 2006 version of District Rule 2201 requires the purchase of offsets for criteria pollutants; and that no blanket exemption from off-set requirements for agricultural sources in Rule 2201 exists. Therefore, the Project should be required to offset net increase in VOC and PM10 emissions.

Response 6-5: Please refer to Response 1-1.

Comment 6-6: The commenter states that the December 19, 2002 SIP-Approved version of District Rule 2201 does not exempt agriculture from offset requirements.

Response 6-6: Please refer to Response 1-1.

Comment 6-7: The District's Best Available Control Technology Analysis is flawed. There are two BACT technologies that are achieved in practice and particularly promising for this project. Dairy emissions are controllable using (1) enclosed and connected milk parlors and cow housing units vented to biofilters, and (2) anaerobic digester systems. Because these technologies are achieved in practice, the District must require them as BACT.

Response 6-7:

Enclosures:

District staff has researched the use of biofilters for inclusion in the Dairy BACT Guideline. The District has been able to verify that biofilters have been used to control odors and/or emissions from wastewater treatment plants, composting operations, and enclosed barns at some poultry and swine confined animal facilities. However, to date, the District has not been able to confirm a single case of an enclosed dairy barn vented to a biofilter. As stated in the Final Dairy Permitting Advisory Group BACT Report, the reports of dairy barns vented to biofilters remain unverified and therefore cannot be deemed Achieved-in-Practice BACT.

The fact that biofilters have been used at poultry and swine facilities also does not render this option Achieved in Practice for dairy facilities. Dairy and swine facilities are not the same source category because the design and operation of these facilities differ significantly from that at dairies. Additionally, the airflow rate required to dissipate heat from the larger dairy animals is much higher. The higher airflow rate would necessitate a substantially larger biofilter than that employed at poultry or swine facilities in order to provide the minimum residence time needed to control emissions. Due to these

reasons, the technological feasibility of capturing and controlling the air exhaust from dairy barns remains in question. However, the District has considered this technology as a technologically feasible BACT option, and has performed a cost-effectiveness analysis, which concluded that this option is not cost-effective at this time.

Anaerobic Digesters:

Recent studies have indicated that lagoons, which are the most typical method for storage of animal waste from dairy animals, are not as large of a source of VOC emissions as previously thought.¹

One of the potential drawbacks for air quality that can result from anaerobic digestion is the emission of other pollutants resulting from the combustion of biogas. These pollutants include oxides of nitrogen (NO_x), sulfur oxides (SO_x), particulate matter (PM₁₀ and PM_{2.5}), and carbon monoxide (CO). Current air quality modeling has demonstrated that the high levels of biogenic and anthropogenic VOC emissions in the San Joaquin Valley Air Basin cause NO_x to be the limiting reactant for ozone production. Therefore, in terms of ozone production, large reductions in VOC emissions can be offset by relatively smaller increases in NO_x emissions. This factor must be considered when determining if anaerobic digesters will reduce ozone formation in the San Joaquin Valley Air Basin. Additionally, several recent studies have demonstrated that particulate matter, especially fine particulate (PM_{2.5}) such as that produced by combustion, can pose a significant health risk. In summary, lagoon VOC emissions are lower than previously thought, and it is possible, even probable, that emissions of combustion contaminants (NO_x, SO_x, PM₁₀, PM_{2.5}, CO), including precursors for the formation ozone and fine particulate, will offset the benefits of any VOC reductions.

Finally, although there are several digesters in operation at agricultural facilities, including dairies, only one installation is equipped with advanced NO_x controls capable of meeting District BACT requirements. This installation is currently under review, as the permittee has expressed difficulty in meeting these very strict NO_x requirements. Given that the relevant NO_x control technologies are still in the development and demonstration mode, and digesters with none or limited combustion pollutant controls are not beneficial to the protection of air quality in the San Joaquin Valley, the District cannot consider anaerobic digesters to be achieved-in-practice BACT.

With that said, through the CEQA process we are now requiring as a GHG mitigation measure the installation of a digester that will treat and compress the resulting biogas, and will inject it into PG&E's natural gas transmission system. This will have all of the benefits of controlling the emissions from the lagoon, but will do it without the combustion processes, and the attendant degradation in air quality, that are normally associated with anaerobic digester systems.

¹ Air Resources Board & San Joaquin Valley Air Pollution Control District Status Report on Dairy Research Related to SB 700 Implementation (June 12, 2006)
(<http://www.arb.ca.gov/ag/caf/dairyresearchsummaryjune2006final.pdf>)

Comment 6-8: The commenter expressed concerns regarding the calculations used in District's Ambient Air Quality Analysis Risk Management review for the Project. "First, the District has not justified the use of its so-called "Interim Significance Level" for determining whether the project will contribute significantly to a violation of the 24-hour standard for PM-10. EPA's established a significance level of 5 µg/m³ while the District has now established a 10.4 µg/m³ threshold of significance. Conveniently, while making only a minor reduction in the total increase in PM-10 from the project (16,910 lbs/year in a June 16, 2006 analysis went down to 15,357 lbs/year in the final February 27, 2007 analysis), the Facility Totals plummeted from 33.7 µg/m³ in the 2006 analysis (well above EPA's significance threshold) down to 5.73 µg/m³ in the 2007 analysis (still above EPA's threshold, but below the District's new "interim significance threshold." These calculations are suspect and should be explained. "

Response 6-8: EPA's significance threshold applies to a PM-10 nonattainment area. The San Joaquin Valley is in attainment of the PM-10 National Ambient Air Quality Standard. To ensure that the State standard will be attained, the District adopted an interim significance threshold of 10.4 µg/m³ for fugitive dust sources. This interim threshold is based on that adopted by the South Coast Air Quality Management District as a localized significance threshold.

The dramatic drop in the PM10 concentrations for this project was caused mainly by a change in the modeling program from ISCST3 to AERMOD. EPA adopted AERMOD as the recommended model for PM10 modeling effective November 9, 2006. The District adopted AERMOD in December 2006. Section 4.14.1 of Rule 2201 specifically states that "Modeling used for the purposes of this rule shall be consistent with the requirements contained in the most recent edition of EPA's "Guideline on Air Quality Models" unless the APCO finds such model is inappropriate for use." The District no longer accepts ISCST3 modeling for any purpose. Another factor contributing to the drop in PM10 concentration are the additional PM10 mitigation measures proposed by the applicant and incorporated into the project design.