Airport
Land Use
Commission

c/o Department of Conservation & Development

County Administration Building
651 Pine Street
North Wing, Fourth Floor
Martinez, California 94553-1229

Phone:

Contra
Costa
County

Catherine O. Kutsuris
Director

Aruna Bhat
Deputy Director
Community Develpment Division

October 14, 2010

California Energy Commission (CEC)
C/o Craig Hoffman – CEC Project Manager
Siting, Transmission and Environmental Protection Division
1516 Ninth Street, MS-15
Sacramento, CA 95814

Re: Determination of Inconsistency with the Contra Costa County Airport Land Use Compatibility Plan on the Proposed Mariposa Energy Project

Mariposa Energy Project - CEC Docket #09-AFC-03

Dear Commissioners:

The Contra Costa County Airport Land Use Commission (ALUC), met on October 14, 2009 and November 5, 2009, to review the Mariposa Energy Project (CEC Reference number 09-AFC-03) issuing a letter to the CEC on November 5, 2009 (attached) articulating the basis for review of the project and stating issues that were raised at the two hearings in 2009 and requesting the CEC to provide information that would address the ALUC's concerns.

Since that time, the proponent of the Mariposa Energy Project (MEP) has provided evidence and expert testimony to the ALUC on the consistency of the proposed MEP with the Contra Costa County Airport Land Use Compatibility Plan (ALUCP). There have been hours of testimony from the applicant and concerned public (mostly pilots) that have occurred on July 14, 2010, July 28, 2010, August 11, 2010, August 25, 2010 and October 13, 2010.

It is important to restate the California legislature's purpose in authorizing the creation of our Commission which is stated in California Public Utilities Code § 21670(a):

Powers and Duties

"(1) It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems."

"(2) It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within

areas around public airports to the extent that these areas are not already devoted to incompatible uses."

The ALUC is guided by the adopted 2000 *Contra Costa County Airport Land Use Compatibility Plan* (ALUCP), which was drafted with guidance from the last two editions of the *Airport Land Use Planning Handbook* issued by Caltrans Division of Aeronautics.[1] There is relatively little guidance in the current and past editions of the Caltrans Handbook pertaining specifically to power plants. However, Caltrans is in the process of updating its handbook to include the review of power plants in the near future.

Proposed Mariposa Energy Project

Mariposa Energy, LLC (Mariposa Energy) filed an Application for Certification (AFC) on June 15, 2009 for the Mariposa Energy Project (MEP) to the California Energy Commission. This proposed project would have a capacity of 200 megawatts (MW). The facility would be a simple-cycle generating facility consisting of four GE LM6000 PC-Sprint natural gas fired combustion turbine generators, and associated equipment. Linear facilities would include a new 580 feet natural gas pipeline and a new 1.8 mile water connection with the Byron Bethany Irrigation District.

The proposed project site is in northeastern Alameda County, approximately 7 miles northwest of Tracy, 7 miles east of Livermore, 6 miles south of Byron, and approximately 2.5 miles west of the community of Mountain House. The facility would be located southeast of the intersection of Bruns Road and Kelso Road on a 10-acre portion of a 158-acre parcel (known as the Lee Property) immediately south of the Pacific Gas and Electric Company (PG&E) Bethany Compressor Station and 230-kilovolt (kV) Kelso Substation.

The MEP would generate invisible high-velocity plumes in the area surrounding the Byron Airport that is within a Byron Airport Safety Zone and within expected flight paths where a variety of aircraft are expected to pass less than 1,000 feet above the top of the plume-generating stacks.

Process for Determining Consistency with the Contra Costa County Airport Land Use Compatibility Plan

The findings made by the ALUC must demonstrate that the proposed action "is consistent with the purposes..." of the statutes as set forth in Public Utilities Code Section 21670(a), which indicates that five separate purposes for the legislation are stated:

1. "...to provide for the orderly development of the each public use airport in the state..."
2. "...to provide for the orderly development of the Byron Airport and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards..."

[1] The consultant who drafted our ALUCP (issued December 2000) concurrently drafted the 2002 edition of Caltrans' *Airport Land Use Handbook*, and incorporated much of the guidance of the 2002 edition into our ALUCP.

3. "...to provide for the orderly development of...the area surrounding these airports so as... to prevent the creation of new noise and safety problems..."
4. "...to protect the public health, safety, and welfare by ensuring the orderly expansion of airports..."
5. "...to protect the public health, safety, and welfare by...the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that the areas are not already developed to incompatible uses."

The Airport Land Use Commission's charter is to ensure that projects are consistent with the above findings.

Considerations

The ALUC also considered the following points in making this decision:

The ALUCP refers to 1) Noise; 2) Safety; 3) Airspace Protection; and 4) Overflight as "Nature of Compatibility Concepts" which can be found in Appendix C, Page C-7 of the ALUCP. The ALUC finds safety and assessing aircraft accident risks or Airspace Protection most important. In 2000, the ALUC looked at aircraft accident locations charts that revealed about one half of arrival accidents and one third of departure accidents take place within the Federal Aviation Administration (FAA) defined runway protection zone for the runway.

The ALUCP provides a series of Airspace Protection nature of compatibility concerns, as listed below:

- Tall structures creating hazards to navigable airspace around airports.
- Visual hazards to flight (sources of smoke, glare, or lights which can be confused with airport lights).
- Electronic hazards to flight (interface with radio communication or navigation signals).
- Uses which can attract birds which aircraft might strike while in flight.

In addition the ALUCP provides land use measures for addressing those concerns, also listed below:

- Limit the heights of buildings, antennas, trees, and other tall object in critical areas near airports.
- Avoid uses and facilities designs which can create visual or electronic hazards to flight.
- Avoid uses (such as landfills) which attract birds close to airports.

Review Focus

The ALUC previously determined that the Byron Airport Master Plan (BAMP), which contemplates certain growth and development on and around the airport (including in the general direction of the proposed MEP), is consistent with the Airport Land Use Compatibility Plan. The ALUC does not feel limited to opining about whether the

proposed MEP is consistent with the Byron Airport current configuration and operation, it feels that it is also obligated to opine about whether the MEP, as proposed, would be compatible or incompatible with the planned future development at and around the Byron Airport. This view is because of the obligation to provide for "...the orderly development of the Byron Airport and the area surrounding [it] so as to prevent the creation of new noise and safety problems...,".

The ALUC previously amended the Byron Airport Safety Compatibility Zones, adding Zone "D". Compatibility Zone D was added for to the Byron Airport, in part, because of changing circumstances and the dramatic increase in the number of flights, uses and plans at the airport.

It should be noted that, the Byron Airport currently houses approximately 100 aircraft, and has a waiting list of 50 people for the existing, publicly-operated hangers. (The status of the waiting lists for privately-operated hangers is unknown.) This waiting list could prompt the building of additional hangers to support the demand for the airport. In 2003, the master plan consultant for the Byron Airport master plan projected operations would go from 40,000 to a value in the range of 40,500 to 46,500 by 2008, and to a value in the range of 43,000 to 64,200 by the year 2023. In retrospect, these estimates appear to have underestimated the actual demand, which may be driven by market forces not anticipated by the consultant.

The main runway at Byron is currently 4,500 ft in length, with planned extension to 6,000 feet toward the southeast in the future. This extension would move the existing flight patterns approximately 1,000 feet to the south, toward the proposed Mariposa project site.

With all the information provided at the ALUC Public Hearings, public testimony, printed documents and technical and anecdotal evidence included, in light of the expansion plans of the Byron Airport, the ALUC was unable to reconcile the difference between the modeling data presented by the Applicant and the experiential evidence (including pilots' real life testimony) regarding plume impact on aircraft operation and pilot safety. While the modeling data suggests that there would be minimal impacts on pilots and aircraft operations from the MEP's proposed operation, the other evidence in the record suggests the likelihood of greater impact that would present more than an insignificant impact on aircraft operation and the public health, safety, and welfare within areas surrounding the Byron Airport. Additionally, the ALUC did not find the modeling data and testimony sufficiently compelling to overcome other indicia of risk to aviation safety. Specifically, there was no scientific field testing data involving actual aircraft encounters with plumes proposed to be generated by the MEP, no evidence proving safety in actual pilot and aircraft encounters with such plumes at relevant heights and with relevant aircraft, and no modeling data tied to actual aircraft measurements. The ALUC was unable to conclude that the evidence was compelling that the potential mitigations (including NOTAMs, markings or lighting on the stacks or on nearby power towers, markers and remarks in the Airport Facility Directory indicating the location of the MEP) would sufficiently reduce the risk to aviation safety to support a finding of compatibility. The Contra Costa County ALUC therefore believes that the Mariposa Energy Project has not sufficiently proven that this use, in this location, will not have an impact on air safety in light of the airport expansion plans.

Inconsistency of Proposed Use

The Contra Costa County Airport Land Use Commission finds, without prejudice, that -- absent demonstration of compatibility as the compatibility criteria are set out in the balance of this letter and the November 5, 2009 letter, including references to the hearing record (See also Chapters 2 (particularly Section 2.4) and Chapter 4 of the Airport Land Use Compatibility Plan) -- the Mariposa Energy Project is inconsistent with the Contra Costa Airport Land Use Compatibility Plan. Without authoritative scientific data showing an absence of hazard to aircraft and therefore no hazard to airport operations, the ALUC cannot find the proposed use compatible with current and future use and development at or around the Byron Airport.

Miscellaneous

If this was a local agency request for project review and that local agency disagreed with a determination with the ALUC it would have the opportunity to override the ALUC's decision. The process would involve three mandatory steps:

- The holding of a public hearing;
- The making of specific findings that the action proposed is consistent with the purposes of the ALUC statute (§21670(a) of the PUC, see above); and
- Approval of the proposed action by a two-thirds vote of the agency's governing body.

We offer this section for the CEC's consideration.

We thank the CEC for the opportunity to provide the ALUC's comments on the proposed Mariposa Energy Project.

Please continue to keep us and the Caltrans Division of Aeronautics informed of MEP's progress through the Certified Regulatory Program's process by sending all legal notices to our staff:

Contra Costa County ALUC
C/o Ryan Hernandez
651 Pine Street
2nd Floor – North Wing
Martinez, CA 94553

For the Energy Commission's benefit we've included copies of the minutes of all of the relevant ALUC meetings as adopted by the ALUC. We understand that you also have (or will have) transcripts of the complete proceedings at the ALUC.

And if there are any questions, you may call Mr. Hernandez at 925-335-1206.

Sincerely,

David E. Durant /RSH

David E. Durant
Chair, Contra Costa Airport Land Use Commission

Att: November 5, 2009 ALUC Letter to the CEC
Contra Costa County Airport Land Use Commission Meeting Minutes

cc: Bo Buchynsky, Executive Director, Mariposa Energy, LLC

Contra Costa County ALUC Commissioners

Contra Costa County Board of Supervisors

Keith Freitas, Director of Airports, Contra Costa County

Contra Costa County Department of Conservation and Development
Catherine Kutsuris, Director – DCD
Aruna Bhat, Deputy Director-CDD
Patrick Roche, Advanced Planner, Contra Costa County

California Division of Aeronautics
Andy Kubrick
Gary Cathey
Ron Bolyard

Airport
Land Use
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c/o Department of Conservation & Development

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Contra
Costa
County

Catherine O. Kutsuris
Director

Aruna Bhat
Deputy Director
Community Develpment Division

DOCKET
09-AFC-3
DATE
RECD. **NOV 30 2009**

CEC Commissioners
C/o Craig Hoffman – CEC Project Manager
Siting, Transmission and Environmental Protection Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Re: Mariposa Energy Project
CEC Docket #09-AFC-03

Dear Commissioners,

The Contra Costa County Airport Land Use Commission, met on October 14, 2009 and November 5, 2009, to review the Mariposa project (CEC Reference number 09-AFC-03).

The California legislature's purpose in authorizing the creation of our Commission is stated in Cal PUC § 21670(a):

> "(1) It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems."
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> "(2) It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses."

Our review of projects is guided by our 2000 *Contra Costa County Airport Land Use Compatibility Plan* (CLUP), which was drafted with guidance from the last two editions of the *Airport Land Use Planning Handbook* issued by CalTrans Division of Aeronautics.[1] There is relatively little guidance in the current and past editions of the CalTrans Handbook pertaining specifically to power plants, and this project presents us with several issues of first impression.

[1] The consultant who drafted our CLUP (issued December 2000) concurrently drafted the 2002 edition of CalTrans' *Airport Land Use Handbook*, and incorporated much of the guidance of the 2002 edition into our CLUP.

After considering the presentation of the Applicant and the public testimony, we found that we could not come to any determinations with regard to safety issues relative to aircraft operations, project compatibility with our CLUP, or mitigation measures without further information from the CEC, and possibly from CalTrans Division of Aeronautics. Specifically, we felt that we would need from the CEC further information and some analysis of the exhaust plumes from the proposed plant under various conditions, as specified below.

Issues Raised During our Hearing of October 14, 2009

The public testimony and documents submitted by the public indicated that a power plant exhaust plume could cause, under certain conditions, turbulence for an aircraft over flying the plume, could allegedly lead to temporary lose of control of the aircraft, could allegedly lead to loss of power or shutdown of an aircraft engine, and/or could allegedly lead to an accident. Five incidents of aircraft being affected by plumes from five different sources were relayed to us. Of these, the incident relayed by a letter dated October 14, 2009, from Gary Cathey, Chief of CalTrans' Division of Aeronautics appears to be the best documented account of the effects of plume turbulence on aircraft. Mr. Cathey's letter was copied to CEC staff, and is now part of the CEC's record for the project.

The Applicant indicated that it knew of no turbulence problems associated with its power plant in San Diego County, near Brown Field (the Larkspur facility). Applicant indicated that it's San Diego facility is similar in design to the proposed Mariposa plant but one-half the size (two stacks instead of four), and located approximately 1.7 miles south of the east-west runway at Brown Field, away from the approach and departure paths. However, a "Google Maps" inspection of the site indicates that the site is more likely to be 1.7 miles to the east of the Brown Field runway, within about 1,000 ft south of the centerline of the main runway approach path. The proposed Mariposa power plant is approximately 2.7 miles south of the Byron Airport, approximately 1 mile west of the centerline of the main runway approach path of the Byron Airport. Applicants presented data analysis regarding the plumes, and indicated that the Mariposa project would not pose a safety hazard to aircraft.

The Director of Contra Costa County Airports, Keith Freitas, indicated that the Byron Airport hosts a wide variety of aircraft and aviation activities. These include: jets, heavy and light propeller aircraft, helicopters, sail planes (*e.g.*, gliders), ultralights, and sky jumpers. He noted that these aircraft fly at different speeds and different altitudes around the airport, and that these aircraft often deviate significantly from the flight patterns published in our CLUP.[2] The Airport Director also noted that there is a large amount of student training that is conducted at Byron, a large portion of which is done by students based at other airports. The Byron airport does not have a control tower, which provides students from other areas with an opportunity to practice radio skills in an uncontrolled airspace. It will likely be several decades before the Byron airport will qualify for FAA funding and support for a control tower.

[2] The Flight paths in the CLUP are principally used to assess noise impacts and to generate an average noise contours; as such, they are generally considered to be generalized, or average, flight paths.

One of our Commissioners noted that the varieties of aircraft also have different weights and different amounts of wing loading (weight per wing area). Aircraft with the least amount of weight and wing loading, such as ultralights and gliders, are suspected of being more prone to turbulence issues than heavy fixed wing aircraft. Occupants of ultralight aircraft and sky jumpers do not have the benefit of performing their flight activities in enclosed cabins, and may be more susceptible to the heat and combustion gasses of an exhaust plume than occupants of jets, propeller aircraft, helicopters, and sail planes. Also, the wings of most Ultralight aircraft are made of polymer materials, not metal, and because of this might deform when exposed to elevated temperatures. We would ask, therefore, for information and analysis and information about the impact of heat and combustible gases on the ultralight aircraft, the sky jumpers, the propeller aircraft, helicopters and sail planes?

In the past, agencies responsible for waterways and power lines in the central part of Contra Costa County (~20 miles northwest of the proposed Mariposa site) have hired helicopters to perform low-altitude inspections (200 ft to 400 ft) of waterways and power lines in heavily populated areas. It is not known if these agencies perform such activities in eastern Contra Costa County, where there are waterways and power lines near the proposed project site. Such agencies typically do not inform us or the Airport Director of their inspection activities beforehand, and the activities are generally only made aware to the Airport Director by way of noise complaints lodged by local residents after the inspections have occurred. There are relatively few local residents around the propose project site, and almost no noise complaints associated with operations from the Bryon Airport.

Information Request #1: From the hearing, it appears that one or more of the four characteristics of a power plant plume may be causing the aircraft turbulence issues that have been observed: (1) upward draft velocity of the plume, (2) horizontal temperatures gradients in the horizontal flight path of an aircraft through the plume, (3) swirling motion of the plume (*e.g.*, eddies, vortices), and (4) oxygen depletion and/or excess CO2 that can affect the chemical reaction in internal combustion engines. We would like to know which of these characteristics, or other characteristics of which we are not aware, are most relevant to assessing aircraft turbulence issues. We request that CEC staff consult with CalTrans Division of Aeronautics on this request.

Information Request #2: We would like the CEC to perform a calm-wind analysis of the amount of aircraft turbulence that the plume at the Mariposa plant would likely cause at the following elevations of aircraft overflight: 1200 ft, 1000 ft, 800 ft, 600 ft, and 400 ft. The analysis should provide one or more parameters at each altitude that may be used to assess the potential for turbulence. We presume the parameters will pertain to the characteristic(s) identified in information Request #1. We would also like to know if the plumes from the four stacks will remain distinct or merge together at some altitude, and if so, the estimated value of that altitude, as well as the likely impact of any merged plume.

Information Request #3: In order for us to validate the CEC's methodology for plume analysis, we would like the CEC to perform the same type of plume analysis for the power plant on which Mr. Cathey performed his tests. With this, we will be able to correlate Mr. Cathey's test data with the parameters from the analysis. Please contact Mr. Cathey for the details about the power plant involved in his tests. Both information requests #1 and #2 may be done at the temperature conditions of Mr. Cathey's tests.

Information Request #4: We request that CEC repeat information request #1 with a wind of 12 knots. Approximately 54% of the time, "calm" winds of less than 8 knots from all directions prevail at the Byron airport. Approximately 23% of the time, there is wind from the southwest that blows in a range of 8 to 16 knots (average of 12 knots). This wind may have the potential to blow the powerplant plume toward the instrument approach of Byron's main Runway 30. We would like to know how far the plume is shifted at each of the test altitudes. While ultralights and gliders will likely use the shorter cross-wind runway 23 under this wind condition, larger aircraft will likely use the longer runway 30 because of its length. A copy of the wind rose for the Byron Airport, as taken from the latest master plan for the airport, is attached for reference.

Information Request #5: We believe that Byron Airport is heavily accessed by pilots that are not based there and who in all likelihood will not be particular familiar with the Byron Airport's surrounding infrastructure. We would request development of clear scientific data regarding how one would effectively provide meaningful notice to pilots and other fliers regarding potential hazards of flying at less than 1000 feet above stacks such as those proposed here. We believe that it is the proponent/applicant's obligation to demonstrate how pilots unfamiliar with the surrounding infrastructure can be adequately nofitied of gases, plumes and their likely impact, so as to minimize the potential harm to the public.

Information Request #6: To assess potential impacts on ultralights and skydivers, we would like to know the locations of the average 120 °F and average 200 °F isotherms of the plume as a function of altitude, up to at least 6,000 feet if these isotherms extend beyond that altitude. A calm wind assumption and an ambient ground-level temperature of 80°F may be used. A simple two-dimensional plot of the right and left horizontal extents of each isotherm on the X-axis and altitude on the Y-axis is sufficient. This information will help us, the CEC, and the Airport director to develop pilot-notification-based mitigation measures.

In addition to safety issues, we look at building heights, visual hazards, and bird strike hazards in making compatibility determinations. There do not appear to be any height hazards with the project. As to possible visual hazards, the area around the Byron Airport is known to have Tule fog during the winter (mid November through to the start of March). Since Tule fog is a ground-level radiation cooling effect, it appears that the power plant plume would dissipate the Tule fog in the area around the site. However, it is not known whether the Tule fog would provide further cooling of the plume in addition to that assumed by Applicant's vapor-condensation analysis, and whether the plume would draw water content from the Tule fog which, when added with the water content in the plume, would condense at a higher altitude of the plume, and whether such condensation would create a visual obstruction for aircraft. We would also request the CEC's and the applicant's opinion regarding this dynamic and whether there would be any visual impact and whether it would be hazardous.

And, we would request confirmation that there will not be an added effect with water content with the Tule Fog or extra cooling effect, and that the Applicant's vapor-condensation analysis is suitable for Tule fog conditions. If that analysis is not suitable, we would request a modified analysis.

Information Request #7: As to potential bird strike hazards, the area around the Byron Airport appears to have significant bird populations, including endangered species, waterfowl, and birds of prey. The Audubon.org website indicates the area around the

Byron Airport as being an "important bird area." The adjacent Clifton Court Forebay is known to attracted waterfowl during the migration seasons. At this point, we do not know what bird populations, if any, are attracted to the Bethany Reservoir, which is near the project site. Most Contra Costa County studies, such as those associated with Byron Airport and the County's Habitat Conservation Plan, have focused on cataloging threatened and endangered bird species[3] in the area, rather than all bird populations. Accordingly, our further research of all bird populations may be needed.

The congregation of birds around airports, particularly approach and departure paths, has the potential to increase bird strikes with aircraft. Larger birds, such as Canadian geese, waterfowl, and birds of prey, are of particular concern because of their weight. Two principal questions arouse during our meeting. First, would birds be diverted away from the power plant plume (such as because of the plume's heat or effluent content), and would such diversion concentrate birds near the main runway approach path to the Byron Airport? Related to this are questions of whether birds are smart enough to sense the heat of a plume and avoid it, and whether they would expire if they are not smart to avoid a high temperature plume. Second, would birds of prey try to ride the rising plume at its cooler edges as part of their hunting activities? A third question flows from these two principal questions: would the plume kill smaller birds, upon which birds of prey would feed upon, such as during down times of the power plant?

Information Request #8: To help us evaluate potential mitigating measures for this particular power plant, what equipment could be added to cool and/or spread out the plume to reduce temperature and turbulence to overflying aircraft? Would widening the stacks and increasing their heights reduce upward draft velocity? Can a small, variably-controlled amount of water be sprayed at the top of the stack to visually mark the first 200 to 400 feet of the plume?

Future Growth and Economic Impact Forecasts for the Byron Airport

In addition to providing the CEC with a summary of issues raised during the hearing and Information requests, we wanted to inform you of the future growth and economic impact forecasts of the Byron Airport.

Completed in 1994, the Byron Airport was one of the last three airports to be built in California, the last being built in 1996. Cost, site selection, airspace constraints, and environmental review make the process of building a new airport difficult and time consuming. The initial planning for Byron airport began in the late 1970's. A wide-ranging site selection process was conducted in the mid-1980's to identify airport sites in the County. Three sites were identified, including the privately-owned Byron Airpark, now the site of the publicly-owned Byron Airport. Since then, the two other sites have been developed with other land uses, and/or encroached upon by incompatible land uses. Accordingly, there are no other sites within the County for a replacement airport to the Byron Airport. The Byron airpark primarily housed and provided services to ultralights and gliders, which have remained with Byron Airport. Owing to their slower speed and lack of mode C radios (and lack of a motive power in the case of gliders), ultralights and gliders are effectively barred from operating at all airports other than

[3] Threatened and endangered species identified by these studies include: golden eagle, western burrowing owl, ferruginous hawk, northern harrier, white-tailed kite, burrowing owl, California horned lark, loggerhead shrike, tricolored blackbird, and Townsend's big-eared bat.

Byron Airport in the central San Francisco Bay Area. Thus, it is expected that Byron will continue to serve these aircraft in the foreseeable future, and such aircraft will likely grow in number. We would ask that the Commission obtain new studies, or evaluate existing studies, to evaluate the impact of these kinds of facilities (and, in particular, the impact of the gases and plumes they generate) on the particularly vulnerable users of facilities similar to Byron Airport, including ultralight aircraft and sky jumpers, to meaningfully assess the impact on public health and safety.

The Byron Airport currently houses approximately 100 aircraft, and has a waiting list of 50 people for the existing, publicly-operated hangers. (The status of the waiting lists for privately-operated hangers is unknown.) This waiting list will likely prompt the building of additional hangers to support the demand for the airport. The airport has approximately 50,000 annual operations. In 2003, the master plan consultant for the Byron Airport master plan projected operations would go from 40,000 to a value in the range of 40,500 to 46,500 by 2008, and to a value in the range of 43,000 to 64,200 by the year 2023. In retrospect, these estimates appear to have underestimated the actual demand, which may be driven by market forces not anticipated by the consultant. The main runway at Byron is currently 4,500 ft in length, with planned extension to 6,000 feet toward the southeast in the future. This extension would move the existing flight patterns approximately 1,000 feet to the south, toward the proposed Mariposa project site.

The Byron Airport is seen by County Board of Supervisors as an important economic development tool for East Contra Costa County, now and for the future. It is expected to play an important role in the economic development of Antioch, Brentwood, Byron, and Discovery Bay, as well as the growing Mountain House Town in unincorporated San Joaquin County, near Tracy.

The Contra Costa County Airport Land Use Commission would like to continue to be engaged on the discussion process, and therefore reserve the right to raise additional questions as they come up in the process.

Sincerely,

David E. Durant/LC

David E. Durant
Chair, Contra Costa Airport Land Use Commission

Attachment: Byron Airport Wind Rose

cc: Gary Cathey, Chief, CalTrans Division of Aeronautics
Bo Buchynsky, Executive Director, Mariposa Energy, LLC
Contra Costa County Board of Supervisors
Keith Freitas, Director of Airports, Contra Costa County
Patrick Roche, Advanced Planner, Contra Costa County
Contra Costa County ALUC Commissioners
Catherine Kutsuris, Director - DCD
Aruna Bhat, Deputy Director-CD

THE PREPARATION OF THESE DRAWINGS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION (FAA) AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982. THE CONTENTS DO NOT NECESSARILY REFLECT THE VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS REPORT BY THE FAA DOES NOT IN ANYWAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN, NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIRPORT LAYOUT PLAN

BYRON AIRPORT - CONTRA COSTA COUNTY, CALIFORNIA

DECEMBER 2004

AIRPORT DATA

		EXISTING	ULTIMATE
AIRPORT SERVICE LEVEL (NPIAS)		GENERAL UTILITY II OR GENERAL AVIATION	SAME
ICAO IDENTIFIER CODE		C83	SAME
AIRPORT REFERENCE POINT (A)	LATITUDE (NORTH)	37° 49' 42.429"	37° 49' 40.18"
	LONGITUDE (WEST)	121° 37' 32.959"	121° 37' 27.01"
AIRPORT ELEVATION (ABOVE MEAN SEA LEVEL)		76'	SAME
TAXIWAY WIDTH		35'	50'
MEAN MAX. TEMP. (HOTTEST MONTH)		95° F (July)	SAME
GPS APPROACH ESTABLISHED		YES	SAME
AIRPORT ACREAGE	FEE SIMPLE	1,307	SAME
	EASEMENT	0	1,720
AIRCRAFT SPACES (Approximate)	Based/Transient Tiedowns	34	60
	T-Hangars/Portables	104	210
	Executive/Corporate Hangars	0	35
	FBO Area	0	(a)
	Box Hangars	0	10

(a) It is assumed that FBO aircraft spaces will be provided in the hangar and tiedown areas.

NOTES

(A) Existing runway end coordinates obtained from latest NOAA Airport Obstruction Chart (AOC), surveyed March 1996, published May 1997. Horizontal information in geographic coordinates (latitude and longitude), North America Datum of 1983 (NAD83). Vertical information in feet above mean sea level (MSL), National Geodetic Verical Datum of 1929 (NGVD29). To convert elevations from NGVD29 to North Americal Vertical Datum of 1988 (NAVD88) equivalent, add 2.4 feet.

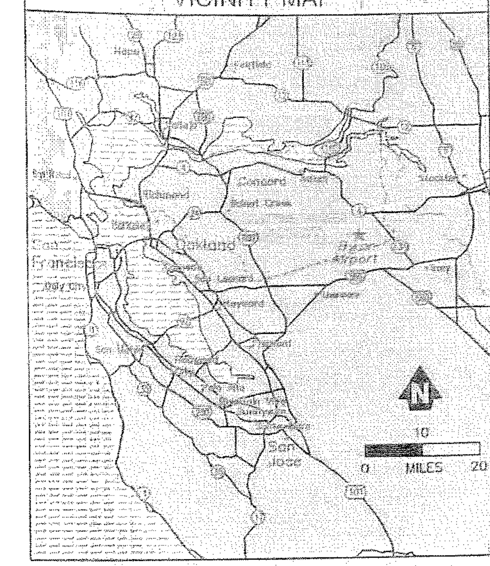
ALP AutoCAD files based in State Plane Coordinate System (SPCS), California Zone 3, U.S. Survey feet, NAD83. CORPSCON conversion utility used to convert between geographic coordinates and SPCS, and to calculate future coordinates.

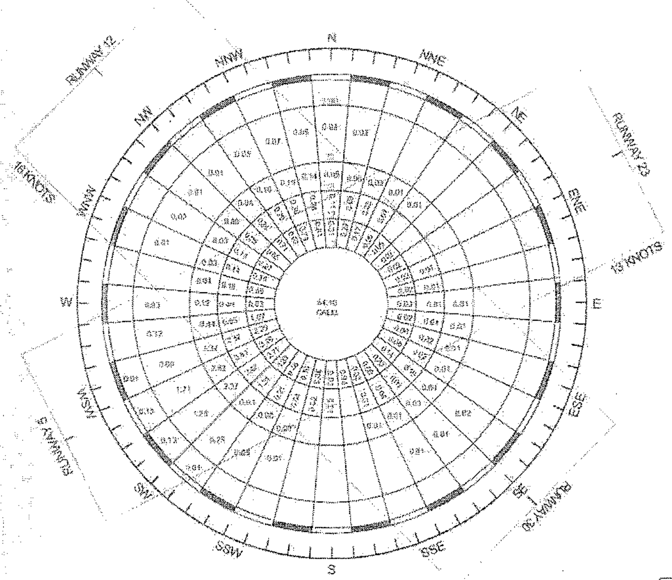
RUNWAY DATA

	RUNWAY 12-30				RUNWAY 5-23			
	EXISTING		ULTIMATE		EXISTING		ULTIMATE	
AIRPORT REFERENCE CODE	B-III		SAME		B-II		SAME	
DESIGN AIRCRAFT (MINIMUM 500 OPERATIONS/YEAR)	Med. Twin		SAME		Light Twin		Med. Twin	
PHYSICAL LENGTH AND WIDTH	4,500' x 100'		6,000' x 100'		3,000' x 75'		3,900' x 75'	
EFFECTIVE GRADIENT	0.4%		0.3%		1.0%		0.8%	
ASPHALT PAVEMENT STRENGTH (1000#) S/D/DT	29.5/-/-		30/45/- EST.		29.5/-/-		30/45/- EST.	
RUNWAY/TAXIWAY SURFACE TYPE	ASPHALT		SAME		ASPHALT		SAME	
APPROACH TYPE: FAR PART 77 CATEGORY AND VISIBILITY MINIMUMS	12: VISUAL [B(V)] / 1 MILE (CIRCLING)	30: NONPRECISION [C] / 1 MILE	12: NONPRECISION [D] / ≥ 3/4 MILE	30: PRECISION [PIR] / < 3/4 MILE	5: VISUAL [B(V)] / 1 MILE (CIRCLING)	23: VISUAL [B(V)] / 1 MILE (CIRCLING)	5: SAME / SAME	23: SAME / SAME
RUNWAY MARKINGS	NONPRECISION		PRECISION		VISUAL		SAME	
FAR PART 77 APPROACH SURFACE SLOPE	12: 34:1	30: 34:1	12: SAME	30: 50:1	5: 20:1	23: 20:1	5: SAME	23: SAME
NAVIGATION AIDS	12: NONE	30: PAPI(3.5°);REIL	12: PAPI/REIL	30: SAME + MALSR	5: NONE	23: PAPI(3.5°)	5: SAME	23: SAME
RUNWAY END COORDINATES (A)	12	30	12	30	5	23	5	23
LATITUDE (NORTH)	37° 50' 08.491"	37° 49' 36.888"	SAME	37° 49' 26.35"	37° 49' 20.347"	37° 49' 33.727"	SAME	37° 49' 37.74"
LONGITUDE (WEST)	121° 37' 53.613"	121° 37' 14.042"	SAME	121° 37' 00.88"	121° 37' 48.413"	121° 37' 15.051"	SAME	121° 37' 05.04"
[LP] = LOW POINT, [HP] = HIGH POINT — ELEVATION (FEET MSL)	61' [HP]	46' [LP]	SAME	42' [LP]	76' [HP]	46' [LP]	SAME	44' [LP]
TOUCHDOWN ZONE ELEVATION (TDZE) DEFINED AS HIGH POINT OF THE TOUCHDOWN ZONE, FIRST 3000' OF RUNWAY AVAILABLE FOR LANDING	12: 61' MSL	30: 52' MSL	12: SAME	30: 50' MSL	5: 76' MSL	23: 76' MSL	5: SAME	23: 71' MSL
RUNWAY LIGHTING	MIRL		SAME		MIRL		SAME	
RUNWAY MARKING	NONPRECISION		PRECISION		VISUAL		SAME	
RUNWAY SAFETY AREA WIDTH	500'		SAME		150'		SAME	
RUNWAY SAFETY AREA, LENGTH BEYOND RUNWAY END	12: 430' ON G	30: 600'	12: 1000'	30: 1000'	5: 300'	23: 300'	5: SAME	23: SAME
RUNWAY OBJECT FREE AREA WIDTH	800'		SAME		500'		SAME	

EST. = ESTIMATED

VICINITY MAP





24-HOUR DATA

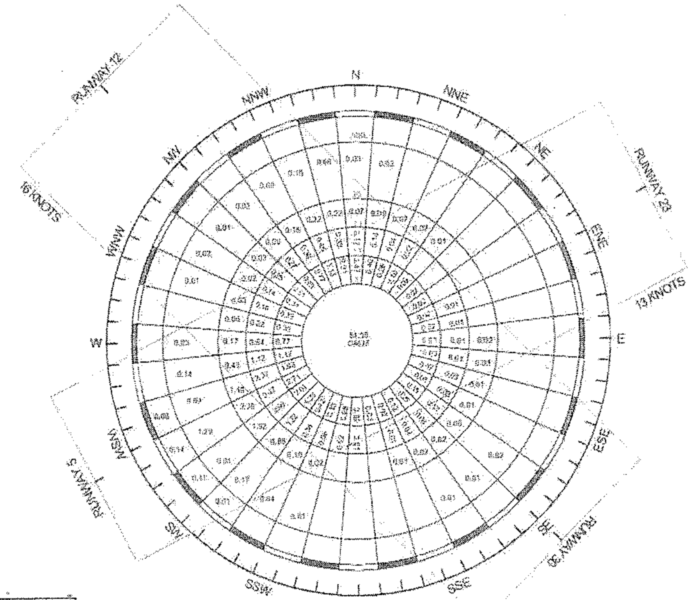
(18,809 Observations)

Runway	12-30					
5-23	Crosswind Component (knots)	0	5.0	10.5	13.0	16.0
	0		52.12%	72.46%	80.59%	89.42%
	5.0	77.00%	89.96%			
	10.5	95.41%		99.38%	99.63%	99.77%
	13.0	97.72%			99.81%	99.91%
	16.0					

WIND COVERAGE

March 22, 1990 - April 25, 1991

Source: On-Site Wind Sensor



6:00 A.M. - 10:00 P.M. DATA

(12,533 Observations)

Runway	12-30					
5-23	Crosswind Component (knots)	0	5.0	10.5	13.0	16.0
	0		52.80%	74.48%	82.52%	90.95%
	5.0	74.65%	88.44%			
	10.5	94.41%		99.23%	99.58%	99.77%
	13.0	97.25%			99.74%	99.86%
	16.0					

SHEET INDEX

APPROVAL

SUBMITTED BY: COUNTY OF CONTRA COSTA	FAA APPROVAL BLOCK
APPROVED: ______ DATE	

Prepared By

LEIGH FISHER ASSOCIATES
A Division of Jacobs Consultancy Inc.

TYLININTERNATIONAL | CCS

Prepared For

CONTRA COSTA COUNTY AIRPORTS

CONTRA COSTA COUNTY

Airport Layout Plan Set

BYRON AIRPORT
500 EAGLE COURT
BYRON, CALIFORNIA

Issue Log

DATE	REVISION DESCRIPTION
12/16/2004	FAA REVIEW
03/18/2005	FAA APPROVAL

Drawing Title

COVER, INDEX & DATA

SHEET

1 OF 11

AIRPORT LAND USE COMMISSION (ALUC)
JULY 14, 2010 MEETING MINUTES

Commissioners Present:	Chairman Durant Vice Chair Yeager Commissioner Day Commissioner Logan Commissioner Roberts
ALUC staff	Lashun Cross Ryan Hernandez
County Staff Present:	Beth Lee, Assistant Director

Item 2: The Chairman called for the Adoption of the November 5, 2009 meeting minutes. The Chairman had one change to the spelling of the word "Vice Chair". A motion was made by Vice Chair Yeager to approve the November 5, 2009 minutes with that change and seconded by Commissioner Logan. (Passed unanimously)

Item 3: Ryan Hernandez was introduced as ALUC staff successor to take effect over the next two or three ALUC meetings. Ryan was introduced as a Senior Planner working with the Department of Conservation and Development for 8.5 years. Chairman Durant asked if he wanted to speak. No comments at that time by Mr. Hernandez.

Item 4: A call was made for public comments on any item under the purview of the ALUC none were received by either the Commission or the Public.

Item 5A: Chairman Durant began the Interview of one candidate to fill the vacant Board of Supervisor's appointee seat. Tom Weber was the sole applicant. Commissioner Yeager asked the applicant, "What is the role of the ALUC Commission?" And "Why does he want to be on the ALUC?"

The applicant responded with his background as a retired General Manager with AT&T and current interest and role on the Aviation Advisory Committee (AAC). In addition, Mr. Weber summarized the role of the ALUC in ensuring compatible land use activities and planning with the Airports and adopted Contra Costa County Airport Land Use Compatibility Plan.

A motion was made by Commissioner Roberts to recommend Tom Weber to the Internal Operations Committee and subsequent approval of the Board of Supervisors to fill the vacant Board Appointee Seat #1 of the Airport Land Use Commission. This motion was seconded by Commissioner Yeager. (Passed unanimously)

Item 5B: Chairman Durant begins the discussion of the Mariposa Energy Project (MEP) with a request of comments from staff.

Prior to the staff report for the Mariposa Energy Project (MEP), staff informed the public that the Bylaws for the Airport Land Use Commission are not the same as the Planning and Zoning Laws. According to the California Public Utility Code § 21671.5 (e) A majority of the members is a quorum for the transaction of business. No action can be taken except by recorded vote of a majority of the full membership. This statement was prompted by a phone call earlier in the day from a member of the public to a planning staff person who provided their response based on the Planning and Zoning Laws.

Staff then proceeded to summarize the MEP staff report informing the Commission of the need to also make a determination of compatibility with the Byron Airport and County wide Policies 6.9.3, 4.3.6, 6.9.4 and 6.7.4 while they are discussing the response data provided as a result of the ALUC letter dated November to the California Energy Commission (CEC).

The applicant response to two areas of ALUC staff report on Policy 4.3.6 (c) Sources of electrical interference with aircraft communications or navigation was unclear if a response was given and on the Policy 6.9.4 Open Land the response was that the site already was in violation.

The applicant Bo Buchynsky and Gary Normoyle with Diamond Generating along with several consultants were present at the hearing. A presentation was given by Chris Curry on the following topics:

Mariposa's rigorous site selection process
Overview of Mariposa's responses to aviation queries (ALUC letter to CEC in Nov.)
Consistency with ALUC and Byron Master Plan
Specific question by question review

The presenter focused on the December 2009 – January 2010 and March Flight Tracks and Aircraft proximity to MEP and Turbulence potential.

Members of the public spoke on this Item as follows:

John Favors spoke and informed the Commission he was with the President of the Tracy Airport Association and teaches students to fly. In addition, the Commission was told that Byron Airport is a high traffic airport with different aircraft flying at various feet. Gliders Traffic pattern at 500-feet, General Aviation at 1000 feet and higher for larger aircraft and all come into Byron at the same time when the lower approach has the right of way it is difficult enough for a seasoned pilot and the traffic creates a greater difficulty for students with fewer hours. Overall, the comments were geared toward the non permittance of the construction of the MEP because it would cause turbulence in which an inexperienced pilot would have difficulty controlling their aircraft and compensating in a short time.

Carol Ford spoke that the MEP is only 2.6 miles away and is not a compatible land use. Ms. Ford informed the Commission that FAA (Federal Aviation Administration) was performing a study that may be out at the end of the month and provided the FAA AIM (Aeronautical Information Manual) page on Plumes that implies FAA studies are underway to further characterize the effects of thermal plumes and exhaust effluents. This document goes on to say; until results of these studies are known and possible changes to the rules and policy are identified pilots are encouraged to exercise caution when flying in the vicinity and reference the Airport/Facility Directory.

Andrew Wilson spoke on this item to let the Commission know that CEC has not published the next meetings and that evidentiary hearings are still to come and the Commission does not have to make a decision now.

Commissioners comments as follows:

Chairman Durant responded with we have been given a task to do by the CEC and we should meet it. We are being asked to give our safety stamp of approval and some safety determination. If there is an accident, the media will be out there and the finger of blame will come to us.

Commissioner Yeager has additional concerns and questions regarding the impact on birds and whether or not mitigation could be imposed to deter birds away or potential dangers.

In addition, Commissioner Yeager felt the data missing was the date, time and ground weather, staff parameters of other facilities.

Several questions and discussion continued around the Katestone Study and the difference with CEC review and the Russell City proceedings. Additional discussion took place on the CO2 level in the plume at 500 feet. Hearing carries on with questions and answers to the data submitted.

Conversation occurs between Commissioners Roberts and Logan and Vice Chair Yeager on weight turbulence and roll upsets and recovery methodology.

All Commissioners agree that additional information for the ultra lights, helicopters and gliders analysis was left out and important information to be obtained from the applicant.

Chairman Durant comments that all information to the Commission should be provided prior to the public hearings as it is difficult for the Commission to make a decision on the information and studies already provided if new information is brought and given to the Commission during each hearing.

Chairman Durant at 10:50 p.m calls for a 10 minute break, following the break the Commission will decide whether or not to continue this item.

The Commission Reconvened at 11 p.m. and discussion begins on item continuance. A motion is made Commissioner Logan and seconded by Vice Chair Yeager. (Passes unanimously)

Item 6: Commission re-elects David Durant as Chairman and Hal Yeager as Vice Chair. A motion made by Commissioner Logan and seconded by Commissioner Day. (Passes unanimously)

Item 7: Updates given on appointment of seat # 2 by the Contra Costa Mayor's Conference expectation in August of appointment and no further comments provided on current or potential projects from other jurisdictions within the purview of the Airport Commission.

Adjournment of hearing at 11:15pm

AIRPORT LAND USE COMMISSION (ALUC)
JULY 28, 2010 Special Meeting
MINUTES

Commissioners Present:	Chairman Durant Vice Chair Yeager Commissioner Day Commissioner Logan Commissioner Roberts
ALUC staff	Ryan Hernandez Lashun Cross
County Staff present:	Beth Lee, Assistant Director

Item 2: Chairman Durant called for the Adoption of the July 14th meeting minutes. No changes were requested. A motion by made for approval by Vice Chair Yeager and was seconded by Commissioner Roberts. (Passed unanimously)

Item 3: The Chair moves to request public comments on any item within the purview of the Airport Land Use Commission not on the agenda, hearing and seeing none this item was closed.

Item 4: Chairman Durant continued the hearing on the Mariposa Energy Project with any opening comments from staff. ALUC staff gave a summary of two phone conversations with CEC (California Energy Commission) project manager. The Commission was informed that Alameda County has land use policy that refers to the Contra Costa County Airport Land Use Commission for the subject project area. The CEC would like to receive any comments from the Commission and anyone is welcome to contact the CEC.

Staff informed the Commission of the status of the East Altamont Project. This plant is over 1000 megawatts and would be on all the time whereas the Mariposa project is a peaker plant and is on as needed. The Altamont Project will license expires in August of 2011 and at this time there is no power purchase agreement. If the Altamont applicant were to extend the license they would need to submit additional information for review and the Airport Land Use Commission could be apart of this process. In addition, staff inquired on whether the CEC does a review of social injustice within their environmental document if two plants are constructed within one community. In response, the Mr. Hoffman explained yes environmental injustice is evaluated however, considering the projects are near Mountain House which is a new affluent community environmental injustice would probably not be an analysis completed with much depth.

Commissioner Yeager suggests a letter be written to CEC requesting notification of the Airport Land Use Commission (ALUC) if the East Altamont project proponents return to

extend the license for the plant. Commission Roberts raises some concern with the approval of two plants in the Byron community and near the end of the Airport runway. Commissioner Logan raises the question why the ALUC was not involved in the licensing process and review for the East Altamont project.

A comment from the opponents was made the reason the ALUC had not reviewed the previous East Altamont project was because little information was known and the impacts and safety hazards caused by these plant plumes were coming to fruition.

The applicant Bo Buchynsky and Gary Normoyle with Diamond Generating with several consultants were present at this hearing. Another presentation was given by Chris Curry on each of the following topics:

A statement given by Gary Normoyle regarding a July 21, 2010 Flight into Byron Airport by a Student Pilot
Technical Memorandum on "Potential Bird Avoidance or Attraction to Exhaust Stacks and Thermal Plumes" prepared by CH2M Hill
Accuracy, Source, and Application of FAA Radar Flight Track Data
Acceptance of the Katestone Thermal Plume Modeling Methodology by the CEC
Incidents Relating to Thermal Plumes
Mariposa Energy Project FAA Determinations of No Hazard to Air Navigation
Discussion of June 3, 2010 AOPA Article "Tall Structures, Airports, Don't Mix"
Discussion of August 26, 2010 Proposed Update to the FAA Aeronautical Information Manual (AIM)

Further discussion with Chris and the Commissioners occurred regarding the Byron Airport Policies. Specifically Zone D does not require open space requirements, only A, B and C requires it. Chris Curry and some Commissioners indicate it states all zones. Vice Chair Yeager objects to the idea that since it's already in violation we can violate the open space requirement even more.

Much discussion continues regarding the birds and the location of the area dump/landfill and whether a mitigation measure can be imposed and used just to address the concern of the possibility of the birds using the plume, a surefire way of getting rid of them.

Mr. Gary Samtolo from CH2M Hill, an aviary biologist, stated you could fly paragren's like they do at some airports to keep birds down and they would probably keep ravens out. No many things hunt ravens they are big birds and pretty smart. In research exhaustive literature, we don't see this happening anywhere else. A search of the FAA bird strike database and out of approximately 9,000 reports only 1 was a report of a raven found on the tarmac that was possibly a bird strike.

Further discussion took place regarding the flight tracks taken over two time periods, a 13-day period in December 2009 to January 2010. Mr. Wheatland stated the standard 4.3 meters a second is not used by the Australian's as a level of which to approve or deny a project but is a threshold for further analysis.

The applicant provided rebuttal to the opponents of the project who spoke at the July 14, 2010 ALUC hearing. A previous speaker asserted that the CEC (California Energy Commission) had rejected Katestone's thermal plume modeling methodology and the assertion is incorrect. A package was provided which includes citations from the CEC which regard to Katestone but in summary the methodology has been cited by the CEC staff as appropriate assessment methodology. Further, the applicant discussed the CEC scheduling order and the FAA revised Aeronautical Information Manual, the (AIM) will include section 7-5-15 to be titled Avoid Flight in the Vicinity of Thermal Plumes, Smoke Stacks, and Cooling Towers. The applicant states, the FAA indicates no mitigation required except enhancement of awareness programs.

Additional conversation on the Civil Aviation Safety Authority and Advisory Circular from the Australian Government occurs. Other speakers are heard, Barry Urtis, Vice President at the Domestic Operations with Williams Aviation Consultants in Gilbert, Arizona. He retired as a senior manager wit the FAA. He assures a thorough evaluation of the effect on the instrument. Instrument procedures of the GPS approach.

Vice Chair Yeager focuses on the authenticity of documents, not simply word of applicants.

Mr. Case van Dam introduces himself as an aeronautical engineer with Senta Engineering and Henry Shue an aeronautical engineer with a specialty in data acquisition and aircraft aerodynamics and Ron Hess, who is a Professor at Naval Post Graduate School and U.C. Davis, both whom will give presentations. His team has conducted a study and looked at the worst case scenario impact of the plume on the flight dynamics of a range of aircraft.

Mr. Ron Hess has been involved in several NTSB accident investigations of all aircraft. Mr. Hess gives the Commission an overview about the simulation he has brought and gave a kind of cockpit simulation view of the airplane as it flies into the one minus cosigned plume that has been discussed in some of the previous presentations. The aircraft trimmed at 1000 feet and an air speed indicator in feet per second and trimmed at 176 feet per second.

Mr. Shue showed a graph of a variety of aircraft and the loads that were imparted by the plume were on the order of a quarter of a G to 0.67 G's and all within the structure limitations of the aircraft. The worst case roll moment given the 0.3 second lag for human response.

Continued discussion and questions occur during this simulation process for Mr. Hess, Mr. Shue and Mr. Case Van Dam.

Members of the public spoke on this item

Mr. Bill Sanders, a local pilot, flying for about 40 years mentioned the Public Utilities Code and California State Aeronautical Act. He indicates these codes refer to safety in

airports and preventing new hazards. It is not the duty of the ALUC to mitigate new impediments. In addition, the ultra lights also use the airport and these slower more fragile machines and the impact on engine performance would need to be thoroughly addressed. He encourages a no vote on the project, as it is the duty to prohibit, not mitigate, the proposal. Mr. Sanders indicates that the real world experience is that people have talked about are quite a bit different than the model produces.

Chairman Durant reminds everyone because of the nature of the body that we (ALUC) are; we can only take into account information that's presented here. Chairman continues to ask for information that will enlighten the Commission on what is referred to that which distinguishes the real life experiences from the model presented at hearing.

Mr. Tom Weber gave a copy an email from Mr. Alan Jones regarding a 2006 Safety Risk Analysis of Aircraft Overflight of Industrial Exhaust Plumes which was primarily a desk top analysis. In addition the email indicates a study is underway to quantify the risk of plumes in the vicinity of airports. The study is the August 2010 edition of the Airmen's Information Manual.

Mr. John Favors, President of Tracy Airport Association, provided the California Public Utilities Code section 21002. Purpose to further protect the public interest in aeronautics, P.U.C code Article 3.5 Airport Land Use Commission to prevent the creation of new noise and safety problems and protect safety and welfare by ensuring orderly expansion; and Advisory Circular 90-66a Aircraft Operations Near Surface and Protection of Airspace.

Mr. Favors further expresses a lot of effort has been put into finding reasons to justify putting the peaker plant in its proposed location but it does not have to be there and almost the entire focus of what has been discussed over the past two meetings has been the effects of the plume. The plant can be placed beyond the vicinity of the airport and would not cause the issues that are coming up.

Carol Ford, Vice President for the California Pilot's Association, provided NTSB reports of airport incidents regarding plumes, a resolution and letter to CEC from the Alameda County Airport Land Use Commission with a recommendation of denial of the proposed Easthore Energy Center that would be a nominal megawatt, gas fired power plant with 70- foot towers that produces high velocity thermal plumes. In addition, she read a letter to Chairman Durant from AOPA (Aircraft Owners and Pilots Association) urging the Commission to issue a determination of incompatible land use for the MEP due to its close proximate to the Byron Airport GPS runway 30 and the impact the plant will have on landing and takeoff and the impact to the airport's visual flight rule traffic pattern.

Andrew Wilson provided the New FAA Part 77 from the Federal Register.

A motion was made to continue this item to the August 11, 2010 hearing in which a final motion will be voted on. No commissioner updates or projects to report, the Chairman adjourned the meeting at 12:45 A.M.

AIRPORT LAND USE COMMISSION (ALUC)
AUGUST 11, 2010
MINUTES

Commissioners Present:	Chairman Durant Vice Chair Yeager Commissioner Day Commissioner Logan Commissioner Roberts
ALUC Staff:	Ryan Hernandez
County Staff:	Beth Lee, Assistant Director

Item 2: Chairman Durant called for the adoption of the July 28, 2010 meeting minutes. No changes were requested[1]. Vice Chair Yeager made a motion to approve the minutes that was seconded by Commissioner Day. (Passes Unanimously)

Item 3: The Chair moves to request public comments on any item within the purview of the Airport Land Use Commission not on the agenda, hearing and seeing none this time was closed.

Item 4: Chairman Durant continued the hearing on the Mariposa Energy Project (MEP) by starting with the speaker, Mr. Andrew Wilson, who was continuing to testify from the 7-28-2010 hearing.

The applicant, represented by Paula Zagrecki, briefly reiterated a few key points in which they believe:

- MEP is compatible with the Byron Airport's relevant policies dealing with access to flight, urban land criteria and height limitations;
- We have show in the data submittals and presentations that MEP will not have a negative impact on either Byron Airport or general aviation; and
- We agree with staff's assessment from last meeting that the East Altamont Project require the Environmental Review to start over.

The Commission proceeded to hear from twenty 22 pilots, many of them local to Contra Costa County. The pilot's testified their real life experience with flying in and around Byron Airport, describing the winds, the pattern of air flight including the three tier elevations and six patterns on two runways, and the Power lines etc. They described their personal planes and/or helicopters. The overwhelming concerns are based on the location of the MEP and the thermal plumes as compared to the Byron Airport and the Runway 30 final approach.

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[1] Mr. Bill Sanders submitted additions, corrections regarding meeting minutes during the time he was called to speak about Item #4 the Mariposa Energy Project. These additions and corrections have been added to the administrative record.

The applicant responded by stating that they have received a No Hazard determination from the FAA last year. Secondly, the MEP is in the process of receiving the Bay Area Air Quality Management District's Preliminary Determination of Compliance and that the project is moving forward through the CEC process. Finally, the applicant noted that they have a long term contract with P.G. & E.

Commissioner Comments:

There was much discussion by each Commissioner regarding the project. Each verbalized the complexity of the project in relation to the ALUCP. They stated that this is not an easy finding to make and most Commissioners vacillated in both directions prior to adoption of the motion.

The Chair summarized the following: The Airport Land Use Commission's charter is pretty clear. To the question are we supposed to protect airspace the -- the answer is in some degree, yes. But not in a hypothetical sense, it's all about safety of the airport; it's about protecting the airport, and not only in its current intended use, but its planned use.

We have already looked the Byron Airport Master Plan and determined that it is consistent with the Airport Land Use Compatibility Plan. So the question ultimately is, if things get built at the Byron Airport the way that the Master Plan says they will would that turn this use, regardless to whether it's compatible today or not, into an incompatible situation.

That's part of what it seems to me what we're supposed to be doing since we've already essentially approved a set of development, if you will, out at the Byron Airport.

In the appendices to the ALUCP, there are some concepts that I will just highlight here. The most important one is the safety question, assessing aircraft accident risks by looking at aircraft accident locations. In 2000 and the charts revealed that about one half of arrival accidents and one third of departure accidents take place within the FAA defined runway protection zone for the runway with a low visibility instrument approach procedure.

It is clear in the ALUCP that we're supposed to be most critical in our interpretation is when we are talking about takeoffs and landings. What we didn't have in 2000 when we did our compatibility plan was any sense that Plumes were an issue. And so, we don't even have perfect guidance either for the applicant or for ourselves in the Compatibly Plan. Appendix C, Page C-7, we have a list of "Nature of Compatibility Concepts" 1) Noise, 2) Safety, 3) Airspace Protection and 4) Overflight.

Given that this is an unknown hazard one which we could not, did not contemplate in 2000 how are we to interpret the compatibility plan in light of the current circumstances? Where I'm struggling, and I'll just be blunt about it, I've vacillated over this thing now

since the first time it came to us in Oct., Nov. 2009 and straight-up to tonight I find myself moving one direction moving the other but I come down to this:

Do we feel comfortable that with all the information provided to us the technical and other, anecdotal being particularly important in light of the expansion plans of the airport, do we feel comfortable that this use is ultimately compatible with air flight safety. I will tell you I have my doubts but more importantly, I don't think it has been proven sufficient that we can say that this use in this location will not have an impact on air safety in light of the airport expansion plans.

Adopted Motion: The Commission voted to adopt a motion, by a vote of 4-1, to send a letter to the California Energy Commission (CEC) that finds that the MEP is not compatible with the Airport Land Use Compatibility Plan also finding that NOTAMs are not an effective mitigation. Prior to sending the letter to the CEC, a draft of the letter will be circulated to the Commissioners and interested parties for discussion at the August 25, 2010 ALUC meeting; and it is the intent of this Commission to re-open the public hearing for discussion of the letter by all.

Item 5: Commission Yeager introduced an item that was continued to August 25, 2010.

Comments from Bill Sanders

Bill Sanders
<m20.bill@gmail.com>
07/26/2010 02:43 PM

To Lashun Cross <Lashun.Cross@dcd.cccounty.us>
cc ANDREW WILSON III <andy_psi@sbcglobal.net>, Carol Ford <carol_ford@sbcglobal.net>, Gary Cathey <gary_cathey@dot.ca.gov>, Rosiak Ed
bcc
Subject Mariposa Energy Project before the ALUC

1. California Public Utilities Code paragraph 21670 states:

"(a) The Legislature hereby finds and declares that:

"(1) It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports... and to prevent the creation of new noise and safety problems."

(2) It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports..."

2. California State Aeronautics Act paragraph 21002 states:

"The purpose of this part is to further and protect the public interest in aeronautics and aeronautical progress by the following means:

"(a) Encouraging the development of private flying and the general use of air transportation."

"(b) Fostering and promoting safety in aeronautics."

"(h) Fostering and promoting... access for small and rural communities to the national air transportation system..."

3. There is growing evidence that locating power plants (especially those with invisible plumes) near airports is contrary to the intent of the Legislature and Public Law as illustrated above.

4. It is Not-the-Duty of the Airport Land Use commission to mitigate the introduction of new impediments to the economic development of the airport, nor the creation of new air hazards.

5. Future Arrivals and Departures. Aircraft are not restricted to narrow arrival and departure corridors as suggested by the proponent. With the expansion of GPS in the in the "Next Gen[eration] National Airspace System" that is currently being initiated by Washington, the concept of "Free Flight" is being strongly promoted. There have already been a variety of T-Shaped GPS approaches implemented throughout the country. Projects which would limit local participation in NextGen will pose a limitation on Aeronautical Progress for Community Support.

6. A new FAA-Part 77 Obstructions to Air Navigation is also in-the-works, to be more

expansive.

7. Mis-Applied Thousand Foot Flying Limitation. The 1,000 foot (above Ground Level) limitation applies over High Density Ground Population areas, except when landing or taking off at airports. It does not apply for airplanes when maneuvering for arrival or departure at the airport in question, Nor-for-Low-Density areas such as is being discussed (even-when-far-away-from-airports),

8. Local Pilots, the California Department of Aeronautics, the Federal Aviation Administration, and the California Pilots association are in agreement that the proposed power plant would not only be a New Safety Hazard, but it would also restrict the ability of the airport to grow with the community.

9. There is No Mitigation. If approved, the ALUC would then be tasked with minimizing it's impact.
As evidenced by the impact of NOTAMS at other airports, there would be limitations on aviation.

Please No Vote on the project, as it is your Duty-to-Prohibit (not mitigate) the proposal.
Efforts of the proponent to minimize the impact on aviation are appreciated. A NOTAM is Not Ok.

Bill Sanders
Local Pilot, Flight Instructor, and California Pilots Association Board Member

Bill Sanders
<m20.bill@gmail.com>
07/26/2010 02:45 PM

To Lashun Cross <Lashun.Cross@dcd.cccounty.us>

cc Carol Ford <carol_ford@sbcglobal.net>, ANDREW WILSON III <andy_psi@sbcglobal.net>, Rosiak Ed <erosiak@comcast.net>, Gary Cathey

bcc

Subject Maraposa Energy Project - Disruption/Upset of Aircraft Flight

Lashun,

This may, or may not, have been previously presented in written form. Here it is, electronically.

Also, add...

a. The impact on Engine Performance would also need to be addressed in more detail.

b. Since many Ultralights, etc also use the airport; these slower and more fragile machines (and exposed pilots) would need to be thoroughly addressed as well.

Bill

On Wed, Jul 14, 2010 at 6:55 PM, Bill Sanders <m20.bill@gmail.com> wrote:

> There is more to the issue that a simple Moment and Control Deflection Analysis.
>
> 1a. The Proponent suggested that aileron deflection might be able to counter the effects of an asymmetrical application of an Exhaust Plume to an aircraft.
>
> 1b. A pilot would need to instantaneously apply and vary the correct amount of Aileron Deflection to match the Plume. This assumption is unrealistic/unreasonable.
>
> 1c. As a result, an airplane is likely to experience an unpredictable instantaneous attitude change. The pilot would need to promptly apply the appropriate corrective recovery technique at a low level. A correct immediate reaction is most unlikely. The end result of Plume and Pilot action could very well exceed aircraft limitations.
>
> 2a. Proper Flight Loading analysis usually assumes an evenly distributed load
>
> 2b. Application of an instantaneous partial wing (point) load, as theorized in the Moment Analysis, can produce a catastrophic in-flight failure with resulting fatalities.
>
> 3a. The application of a perpendicular Blast from a Plume will have a dramatic effect on the Angle of Attack of the wind over the flying surfaces, similar to highly destructive Micro Bursts. This results in unpredictable aircraft attitude changes and lost lift that may not be controllable/recoverable by Control Surface application.

3b. Aircraft experiencing this are often not able to be returned to controlled flight in a timely manner before a fatal mishap occurs.

4. Tail surfaces are notoriously susceptible to Aerodynamic Flutter, which usually results in a Catastrophically Divergent airfoil failure and separation from the aircraft in flight. Not Good.

A proper analysis would need to address these, and related Aircraft Structures, Performance, Control, and Airflow issues.

Bill Sanders

Bill Sanders
<m20.bill@gmail.com>
07/26/2010 02:48 PM

To Lashun Cross <Lashun.Cross@dcd.cccounty.us>
cc Carol Ford <carol_ford@sbcglobal.net>, Rosiak Ed <erosiak@comcast.net>, ANDREW WILSON III <andy_psi@sbcglobal.net>, Gary Cathey
bcc
Subject Prior Contra Costa ALUC - Maraposa Energy Submission

Lashun,

This may, or may not, have been presented in written form. Here it is, electronically.

On Wed, Jul 14, 2010 at 2:55 PM, Bill Sanders <m20.bill@gmail.com> wrote:

I'm in SoCal, so won't be able to attend.

If I were there, I would thank them for their Energy Commission Comments
(and maybe ask where we can asst with some Staff Support?).

It's not the ALUCs job to offer Mitigation.
A NOTAM is not a reasonable/acceptable Mitigation (work-around).
The Proponent should be prepared to locate outside of the Airport Influence Area.
Even while doing so, arrival and departure routes (including VFR) should be avoided.

It's not our job to prove that there will be a problem.
The Proponent must prove they will Not cause a problem

On the topic of Flight Tracks....
The Radar facilities do Not establish tracks on Non Participating (VFR) flights.
Only those VFR flights that have requested Flight Following, and have been
assigned a Transponder Code (beyond 1200), would get established tracks.

The Stress Study did not indicate "distributed" loads on the flying surfaces.
The surfaces are more susceptible to localized peak loads that cause failures.
There were No comments on Tail Loading and their Critical Induced Flutter.
Add Upset attitude changes and Roll Correction Rates in Degrees/Second.

Bill

AIRPORT LAND USE COMMISSION (ALUC)
AUGUST 25, 2010

Minutes

Commissioners Present:	Chairman Durant Vice Chair Yeager Commissioner Day Commissioner Logan Commissioner Roberts
ALUC Staff:	Ryan Hernandez Lashun Cross Catherine Kutsuris Patrick Roche
County Staff:	Keith Freitas Beth Lee

Item 2: Corrections, revisions, and additions to the minutes were reviewed and considered by the Commission. Commission Yeager had several corrections that were noted and subsequently corrected. Commissioner Yeager made the motion to adopt the August 11, 2010 minutes, with a second by Commissioner Logan. Amended minutes passed unanimously.

Item 3: Bill Sanders, local area pilot, spoke regarding the adopted August 11, 2010 ALUC minutes. Requested that his written summary be included into the minutes, staff suggested to agendize this item for consideration at the September 22, 2010 ALUC meeting.

Item 4: Introduction and welcome for Commissioner Taylor is postponed to a future date not specified.

Item 5: Continued Public Hearing regarding the Mariposa Energy Project and the review of the draft letter that included Commissioner Durant's red line suggestions were to be forwarded to the California Energy Commission.

A letter from Ellison, Schneider and Harris, the applicant's counsel, was submitted to the ALUC on the day of the hearing, August 25, 2010, sharing concerns with the draft letter that is to be issued to the Energy Commission. Based on staff's suggestion, the ALUC continued the hearing to September 22, 2010 to allow an opportunity to review the letter and if applicable, make suggestions to the Commission.

All speakers listed below, filled out a speaker card, confirmed that they would defer speaking until September 22, 2010.

This is the order of speakers that agreed to defer comments to the September 22, 2010, as called by the Chair.

Mr. Curry
Ms. Zagrecki
Dr. Lichman
Mr. Gardner
Mr. Hutchison
Mr. Sanders

Mr. Roe declined to defer comments to the September 22, 2010 ALUC meeting and his comments are summarized below:

> *I thought that the Commission already made a decision and a determination on this and tonight's meeting was merely to make sure that proper language had been drafted to support that decision which had already been made.*
>
> *Are we opening this discussion back up for another total public review of the actual decision itself? And where were the Planning Commission or whoever it is in all this entire step process in public meetings?*
>
> *I'd like to say that the decision of whether this project is compatible with the land use plan for Byron is solely and 100 percent your responsibility, this Commission (ALUC). It's not the responsibility of Contra Costa County. It's not the responsibility of the CEC, although they may override or grant permits. But this particular decision is no one's purview except this Commission. Not the State of California, not all these attorneys sitting around here not only is it your purview it's your responsibility. You have a responsibility to the citizens of this county and the users of that airport to determine the compatibility of this project with the air space both now and in the future.*
>
> *I believe you've already made that decision. So I see no reason to hold this over to the September 22nd because I can't be there then. In my opinion the decision has already been made and there's no reason to hold this over. Thank you very much.*

Chair Durant briefly responded, restating the reason why the Commission continued the item to September 22, 2010. The ALUC received a letter from the applicant's attorney the day of the hearing. Giving staff the opportunity to review the letter and provide further input is reasonable.

Vice Chair Yeager makes a motion to continue this item to September 22, 2010 that is seconded by Commissioner Roberts and passes unanimously.

Item 6: Chair Durant requests staff to reach out regarding a project in Pleasant Hill that is proposing an 85-foot tall monopine within Buchanan Airport's Influence Area. Commissioner Yeager requests that staff provide an update regarding this project.

Proposed Additions/Corrections to the ALUC Minutes of August 11th, 2010

1. Item 2, Adoption of July 28th 2010 Minutes. Suggested Addition. The Commission (also) Received, Discussed, and Approved the Proposed Additions and Corrections eMail to the July 28th Minutes submitted by Bill Sanders.

2. Item 4.

a) Third line. Regarding Andrew Wilson's comments, suggest adding his main points as follows:

i) When MEP received their Part 77 Form 7460 approval from the FAA, the FAA was only evaluating structure height, not airspace concerns. The FAA is now quite concerned about hazardous experiences being reported by pilots over Power Plants and has since issued an Advisory to avoid overflying them.

ii) He provided a copy of the California Pilots Association (calPolits.org) appeal to the Environmental Appeals Board of the EPA in Washington DC. The Appeal focuses on the negative impact that Power Plant Emissions have on Pilots, Passengers, and Aircraft.

iii) The FAA is near completion on their Thermal Plumes Study, visible and invisible. The Draft should be available in one to two months, and Final Report in three to four months.

b) First Page, Last Paragraph, First Line. Suggest changing the end of the first sentence to read "... proceeded to hear from Twenty Two (22) of the Thirty Two (23) Pilots, who are either based at or frequently use the Byron Airport, and/or Byron Airport Business Operators.

c) Second Page, First Line, Suggest Inserting the following after "helicopters: such as:

* Visual Flight Rules (VFR) Business Jets, Private Airplanes, Tow Planes, Gliders, Ultralights, etc routinely fly larger and more varied Traffic Patterns than the small precise ones depicted by the proponent. This is done so as to accommodate the wide difference in performance characteristics between the variety of aircraft types that use the Byron airport. Pilots of such VFR aircraft follow well established See-and-Avoid procedures that require them to be free to deviate as required in the area for Safety.

* Student Pilot Activities, and their Training, often result in Extended/Enlarged Traffic Patterns that can take them over the Proposed MEP site.

* The attention of pilots is primarily in the horizontal plane that the airplane is flying in, so as to blend in with the flow of other aircraft in the area. Marking something below this plane of flight is unlikely to get the attention of pilots while they are dealing with other airplanes at their altitude. The classic marking of obstructions (smoke stacks) is intended to keep aircraft from flying into the obstruction.

* Use of an FAA "Notice-to-Airman" (NOTAM) or a Transportation Security Administration (TSA) Flight Restriction, that directs or requires aircraft to avoid flying over or near Power Plants, will impact the ability of aircraft to properly use the airspace around the airport to maintain Safe Operations.

* The Master Plan for Byron Airport provides for the expansion in the direction of the MEP. Having MEP in the proposed location will have a severe negative operational (safety) Economic Impact on Byron.

* Carol Ford refuted the proponents assertion that birds will not be a factor, and in fact stated that she saw five (5) Ravens overhead the Byron runway on the previous Saturday. A MEP Bird Report alleged that there were only 61 Ravens in the area; while the Contra Costa Audubon Society, that she contacted, stated that there were Thousands of over-wintering water fowl, and many Crows and Ravens near Byron.

* Bill Sanders Recounted that Colgan Air also experienced erratic engine performance that caused the crew to abort the approach. This info was previously submitted to the record, however MEP avoids discussing it.