

DEPARTMENT OF TRANSPORTATION

DIVISION OF AERONAUTICS – M.S.#40

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Byron Airport
Contra Costa County

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DATE	OCT 04 2009
RECD	OCT 05 2009

October 14, 2009

Ms. Lashun Cross
Airport Land Use Commission
Contra Costa County
651 Pine Street, North Wing 4th Floor
Martinez, CA 94553

VIA ELECTRONIC MAIL

Dear Ms. Lashun:

In response to notification that the Department of Transportation, Division of Aeronautics has received regarding the proposed construction of a power plant in the vicinity of Byron Airport, we offer the following comments.

The California Public Utilities Code, Section 21659 prohibits the construction of structures that may be considered hazardous to aircraft operating in navigable airspace, as defined in Title 14 of the Code of Federal Regulations, Federal Aviation Regulation (FAR), Part 77, Subpart C. In part, FAR Part 77.13(a) (1) through (4) requires sponsors to submit a Notice of Proposed Construction (Form 7460-1) to the Federal Aviation Administration (FAA) at least 30 days before the earlier of the following dates: (1) The date the proposed construction or alteration is to begin, or (2) The date an application for a construction permit is to be filed. It is important to note that the FAA aeronautical study process does not formally evaluate the effects that thermal plumes have upon overflying aircraft; it evaluates only the height of the structure(s) themselves.

In several instances, power plants that emit thermal plumes have been constructed near airports, and have resulted in numerous safety related complaints by pilots regarding the negative effects that the high velocity plumes have had upon aircraft control and maneuverability, and in some instances pilot visibility. As a result, the Division of Aeronautics conducted a nonscientific flight over a local power plant emitting thermal plumes to determine the effects the plumes might have upon the operation of the aircraft. We were informed the plant was operating at 100% of peak capacity at the time. The Beechcraft Bonanza F-33 aircraft, having a maximum gross weight of 3600 pounds, overflew the power plant towers beginning at an altitude of 1200 feet above ground level, in calm wind conditions. The altitude of subsequent passes was decreased in 200 foot intervals. Minor turbulence was experienced at the 1000 foot and 800 foot elevations. However, the most significant turbulence was experienced at the 600 foot elevation. The turbulence from the plumes did effect aircraft control and maneuverability to the extent that further lower passes were not conducted because of potential aviation safety concerns. At this elevation, we felt there was inadequate altitude to regain full aircraft control in the event of an aerodynamic stall of one or both wings.

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We recommend that an objective, scientifically based approach be used to thoroughly analyze the aerodynamic effects that this particular proposed power plant would have upon aircraft approaching or departing the traffic pattern at Byron Airport. Parameters should include, but not be limited to: type, weight, altitude, and speed of aircraft; temperature, velocity and moisture content of the thermal plume(s) and surrounding air; height and shape of the emitting stacks, etc. The Division of Aeronautics believes such information would be helpful in determining the potential impact of the proposed power plant on the Byron Airport, and useful in your decision-making process.

Sincerely,



GARY CATHEY, Chief
Division of Aeronautics

cc: FAA ADO SFO677
Jim Adams, CA Energy Commission
Keith Freitas, Director of Airports