

# **TUOLUMNE COUNTY AIRPORTS**

## **REASON FOR INVESTIGATION**

Members of the Grand Jury reviewed past Grand Jury Findings and Recommendations concerning the County's airports. During this review, it was determined the responses to some of the recommendations did not fully meet the requirements as established by law. Additional documentation was requested from the Airport Manager and was provided.

Due to the widely separated geographic locations, it was decided to limit the physical investigation to Columbia Airport. Pine Mountain Lake (PML) Airport was discussed during the meeting.

## **METHODOLOGY**

Members met at Columbia Airport. With one exception, all of the Jury's questions were answered satisfactorily.

## **FINDINGS**

1. All previous Grand Jury Findings and Recommendations have been met.
2. Work and time management is very important for all county airport staff. Work must be, and appears to be, scheduled in such a way that priority work is accomplished first and as soon as possible.
3. Noise complaints continue to be a problem at both airports. Without being able to identify the aircraft responsible, there is nothing that can be done about this. Unfortunately, when the person complaining is asked such simple questions such as color, number of engines, or high wing/low wing, the answer is generally "I don't know". Airport staff has taken steps to mitigate noise complaints with articles in the airport newsletter, The Manager's Approach. These articles emphasize noise mitigation techniques and the noise sensitive areas around both airports. (See Additional Explanations for amplification.)
4. State aid for this year has been suspended. This aid accounts for approximately two percent (2%) of Columbia Airport's annual budget, but approximately twenty percent (20%) of the PML budget. This loss will impact planned improvements at PML for this year and possibly next year as well.
5. The grass runway at Columbia is a unique feature of public airports. It serves as a tourist draw bringing in flyers from around the world. It also serves to introduce fledgling pilots to probably the most challenging aspect of flying, landing. During certain wind conditions, it is the only safe runway for arrivals and departures.
6. The deer fence at PML, recommended by Wildlife Services, has made PML much safer. Before the fence was installed, there were one or two deer/aircraft collisions each year. Since installation, there have been no reported collisions.
7. While there are no scheduled inspections of the hangers at either airport, there are random inspections. Also, safety equipment such as heat detectors, smoke detectors, etc. is inspected on an annual basis. During this safety inspection, other housekeeping aspects are reviewed.
8. While there is no precision approach (one that provides both course and glide slope information) at either airport, there are non-precision GPS (Global

Positioning System) approaches. These provide only course information. There is a request for the Federal Aviation Agency (FAA) to survey both airports for more precise GPS approaches than are presently available. As commercial and general aviation airports with a higher volume of traffic receive priority for these surveys, it will be some time in the future before this action will be completed. (See Additional Explanations for amplification.)

## **RECOMMENDATIONS**

1. For Finding 1, no recommendation is needed.
2. For Finding 2, consideration should be given to hiring additional staff, either part time or full time for maintenance of facilities. Volunteers may and should also be considered for some of the maintenance work, if appropriate.
3. For Finding 3, continue to emphasize noise mitigation techniques and noise sensitive areas. See Additional Explanations/Observations below.
4. For Finding 4, continue to pursue State and Federal funding for physical improvements at both airports.
5. There are no specific recommendations for Findings 5 through 8.

## **ADDITIONAL EXPLANATIONS/OBSERVATIONS**

### **GENERAL**

The difference between what the FAA considers an airport and an airpark was explained. An airport is one where the flying community pays fees for operating. An airpark is primarily one designed for use by the home owners who are assessed an annual fee. Pine Mountain Lake is considered to be an airpark and as such is not eligible for most funds from the FAA.

### **AIRCRAFT NOISE**

Aircraft noise is primarily from two sources; engine noise and propeller tip speed. Aircraft engines do not normally have mufflers like motor vehicles. High power settings are a fact of life during takeoff, thus producing greater engine noise. The larger the diameter and higher the speed of the propeller, the closer propeller tip speed comes to the speed of sound. This is generally the greater noise contributor. High power settings at takeoff mean higher propeller speeds which equate to higher propeller tip speeds. The only methods to reduce these factors are dangerous. The aircraft either needs to climb at low speed with a high rate of climb, or the pilot has to reduce power. Low speed and high climb rate can lead to a stall. This is where the aircraft literally falls out of the sky. General aviation pilots are taught stall recovery, but stalls near the ground don't provide enough altitude for normal recovery. Reducing power is not as dangerous, but does introduce the problem of obstacle clearance, i.e. hitting an object or the ground due to reduced aircraft performance. Neither of these outcomes is conducive to happy people in the aircraft and sometimes on the ground.

## **MORE ACCURATE GPS APPROACHES**

To have the additional GPS accuracy needed for newer instrument approaches to both Columbia and Pine Mountain Lake Airports, it is necessary to install what is essentially a ground based GPS correction signal transmitter. It is no great problem to establish the location of this transmitter in three dimensions; Latitude, Longitude and Altitude.

The difficult and time consuming part is to survey each and every possible obstacle on the airport and in the landing and departure zones in these three dimensions. This is needed to insure there is adequate obstacle clearance for landing and departing aircraft using GPS equipment during instrument flying conditions. The correction signal is determined by knowing exactly where the ground based transmitter/receiver is located and then electronically correcting the signals received from the GPS satellites. This improves GPS accuracy to plus/minus one meter (3.3 feet), if not better.

## **COMMENDATIONS**

The Airport Manager and his staff were found to be very knowledgeable as to their duties. All seemed willing to do what ever needed to be done, whether it was normally a part of their duties or not. Everyone seemed to enjoy what they were doing. All in all, it was a pleasure to talk to happy, knowledgeable people that enjoy coming to work each day.