U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Colorado, Idaho, Montana, Oregon
Utah, Washington, Wyoming

1601 Lind Avenue S.W.
Renton, Washington 98057-4056

MAY 1 2 2008

Dr. Antonin Bouchez
Caltech Optical Observatories
Palomar Observatory
35899 Canfield Road
Palomar Mountain, CA 92060

Dear Dr. Bouchez:

The Western Service Area, Operations Support Group has performed an aeronautical study regarding your request for operation of the Laser Guide Star system at the Caltech Optical Observatories in Palomar Mountain, California on the dates and times indicated below. Limitations on laser operations are required to ensure that laser light beams are not propagated into navigable airspace and illuminate aircraft.

We have no objection to your laser operation, provided the operator complies with the following conditions:

- Operations will be conducted at the following location, dates, and times:

  Caltech Optical Observatories
  Palomar Observatory
  35899 Canfield Road
  Palomar Mountain, CA 92060
  Latitude 33° 21' 22.3"N/ Longitude 116° 51' 52.7"W
  Planned laser projection schedule:

May 13, 2008 20:41 - May 14, 2008, 03:47 PDT
May 14, 2008 20:42 - May 15, 2008, 04:46 PDT
May 15, 2008 20:42 - May 16, 2008, 04:45 PDT
May 16, 2008 20:43 - May 17, 2008, 04:44 PDT
May 17, 2008 20:44 - May 18, 2008, 04:44 PDT
May 18, 2008 20:45 - May 19, 2008, 04:43 PDT
May 19, 2008 20:46 – May 20, 2008, 04:42 PDT
May 20, 2008 20:47 – May 21, 2008, 04:41 PDT
May 21, 2008 20:48 – May 22, 2008, 04:41 PDT
May 22, 2008 20:49 – May 23, 2008, 04:40 PDT

June 15, 2008 21:04 – June 16, 2008, 04:33 PDT
June 16, 2008 21:04 – June 17, 2008, 04:33 PDT
June 17, 2008 21:04 – June 18, 2008, 04:33 PDT
June 18, 2008 21:05 – June 19, 2008, 04:33 PDT
June 19, 2008 21:05 – June 20, 2008, 04:33 PDT
June 20, 2008 21:05 – June 21, 2008, 04:33 PDT

July 15, 2008 21:00 – July 16, 2008, 04:47 PDT
July 16, 2008 21:00 – July 17, 2008, 04:48 PDT
July 17, 2008 20:59 – July 18, 2008, 04:48 PDT

- The laser beam angle will not exceed 90 degrees.

- Five certified aircraft spotters (observers) will operate at or in the vicinity of the laser beam, two outside, two inside and one on standby.

- Observers are to be equipped with instantaneous means of communications with the laser operator to terminate laser emission if aircraft appear to be approaching the outer limits of adverse laser effects.

- Laser beams are to be terminated or directed away from any aircraft that could be adversely affected by the laser beams. This means, within the full distance of any adverse affects to pilots or passengers on aircraft. This stoppage can be at the discretion of the operator, or as the result of directions from the responsible air traffic control facility, which is the Los Angeles Air Route Control Center (ZLA ARTCC).

- It is understood that the onsite person responsible for safety and operating the laser equipment can be instantly accessible during the laser operation at phone numbers (760) 742-2106 or (760) 742-2108.

- The operator will use additional airspace safety monitoring systems consisting of a Visual All Sky Camera with a range of 500 to 100,000 feet and a boresighted thermal IR camera with a range of 100 to 60,000 feet and a narrow-beam RADAR.

- The operator will provide notification of any cancellation of laser tests to ZLA ARTCC at (661) 265-8205.

- The operator will advise Prescott Automated Flight Service Station (PRC AFSS) at (877)-487-6867 or (928) 583-6154, in the event the laser test is canceled.

This Letter of Determination is only applicable to FAA requirements. Any other necessary approvals must be obtained from the appropriate authorities. This determination does not relieve the sponsor/operator of compliance responsibilities related to laws, ordinances, or regulation of any federal, state, or local government agency.

For further information concerning this matter, please contact Rebecca Shelby, Operations Support Specialist, Western Service Center, Operations Support Group, at (425) 203-4535.

Sincerely,

Clark Desing
Manager, Operations Support Group
Western Service Center

cc: ZLA ARTCC
SCT
CDRH