

Sufficient dischargers must be provided to allow for current-carrying capacity which will maintain airframe potential below the corona threshold of the trailing edges.

**h.** In order to achieve full performance of avionics equipment, the static discharge system will require periodic maintenance. A pilot knowledgeable of P-static causes and effects is an important element in assuring optimum performance by early recognition of these types of problems.

### **7-6-13. Light Amplification by Stimulated Emission of Radiation (Laser) Operations and Reporting Illumination of Aircraft**

**a.** Lasers have many applications. Of concern to users of the National Airspace System are those laser events that may affect pilots, e.g., outdoor laser light shows or demonstrations for entertainment and advertisements at special events and theme parks. Generally, the beams from these events appear as bright blue-green in color; however, they may be red, yellow, or white. However, some laser systems produce light which is invisible to the human eye.

**b.** FAA regulations prohibit the disruption of aviation activity by any person on the ground or in the air. The FAA and the Food and Drug Administration (the Federal agency that has the responsibility to enforce compliance with Federal requirements for laser systems and laser light show products) are working together to ensure that operators of these devices do not pose a hazard to aircraft operators.

**c.** Pilots should be aware that illumination from these laser operations are able to create temporary vision impairment miles from the actual location. In addition, these operations can produce permanent eye damage. Pilots should make themselves aware of where these activities are being conducted and avoid these areas if possible.

**d.** Recent and increasing incidents of unauthorized illumination of aircraft by lasers, as well as the proliferation and increasing sophistication of laser devices available to the general public, dictates that the FAA, in coordination with other government agencies, take action to safeguard flights from these unauthorized illuminations.

**e.** Pilots should report laser illumination activity to the controlling Air Traffic Control facilities, Federal Contract Towers or Flight Service Stations as soon as

possible after the event. The following information should be included:

1. UTC Date and Time of Event.
2. Call Sign or Aircraft Registration Number.
3. Type Aircraft.
4. Nearest Major City.
5. Altitude.
6. Location of Event (Latitude/Longitude and/or Fixed Radial Distance (FRD)).
7. Brief Description of the Event and any other Pertinent Information.

**f.** Pilots are also encouraged to complete the Laser Beam Exposure Questionnaire located on the FAA Laser Safety Initiative website at <http://www.faa.gov/about/initiatives/lasers/> and submit electronically per the directions on the questionnaire, as soon as possible after landing.

**g.** When a laser event is reported to an air traffic facility, a general caution warning will be broadcasted on all appropriate frequencies every five minutes for 20 minutes and broadcasted on the ATIS for one hour following the report.

#### **PHRASEOLOGY-**

*UNAUTHORIZED LASER ILLUMINATION EVENT, (UTC time), (location), (altitude), (color), (direction).*

#### **EXAMPLE-**

*“Unauthorized laser illumination event, at 0100z, 8 mile final runway 18R at 3,000 feet, green laser from the southwest.”*

#### **REFERENCE-**

*FAA Order JO 7110.65, Para 10-2-14, Unauthorized Laser Illumination of Aircraft.*

*FAA Order JO 7210.3, Para 2-1-27, Reporting Unauthorized Laser Illumination of Aircraft.*

**h.** When these activities become known to the FAA, Notices to Air Missions (NOTAMs) are issued to inform the aviation community of the events. Pilots should consult NOTAMs or the Special Notices section of the Chart Supplement U.S. for information regarding these activities.

### **7-6-14. Flying in Flat Light, Brown Out Conditions, and White Out Conditions**

**a. Flat Light.** Flat light is an optical illusion, also known as “**sector or partial white out.**” It is not as severe as “white out” but the condition causes pilots to lose their depth-of-field and contrast in vision.