

Aviation Lightning Detection System Information

The City of Phoenix Aviation Department has lightning detection and warning systems at all three City owned airfields. The systems are short-range thunderstorm detection and lightning ranging systems that detect both cloud-to-ground and cloud-to-cloud lightning discharges. The systems provide a range estimate for cloud-to-ground lightning discharges from thunderstorms that occur within approximately twenty miles. For a nearby storm or a storm that develops overhead, the cloud lightning detection feature can sometimes provide advance warning of cloud-to-ground lightning.

The system at Sky Harbor utilizes alarm dissemination equipment consisting of Remote Alarm Displays (RADs) that are located in subscribing tenant offices. The RADs have green, yellow and red indicator lights that will step progressively from green to yellow to red to indicate the detected level of lightning threat.

The systems at Deer Valley and Goodyear Airports employ an alarm transmitter connected to the system computer located in the airport terminal. Remote Enunciators (RE) located on the airfield receive the radio signal from the alarm transmitter and produce audible and visual alarm indications. Each RE includes an amber beacon and two alarm horns. When the RE receives an alarm signal the beacon will turn ON the horns will sound a continuous SOLID alarm tone. The SOLID alarm tone duration is 15 seconds. The beacon will remain ON for the duration of the alarm condition. When the alarm condition ends, a radio signal will trigger the RE to shut OFF the beacon and the horns will sound an intermittent HI-LO tone. The HI-LO alarm tone duration is also 15 seconds. It is important to note that if you miss the audible signal (because you are indoors, subject to aircraft noise, etc.) the status of the beacon will be the primary indication of the lightning condition. All airfield users should become familiar with the location of REs and periodically monitor the status of the beacons. If the beacons are ON the airfield is in a lightning alarm state.

The systems do not provide an absolute protection against hazardous conditions. Do not rely on silence or the lack of a beacon indication to mean there are no hazardous conditions. If weather conditions or common sense indicates that conditions are hazardous, take appropriate actions to ensure safety.