



## Lightning Detection System Information

The City of Phoenix Aviation Department has installed lightning detection or warning systems at all City owned airfields. The systems include an electrical Storm Identification Device (ESID) and an alarm dissemination system consisting of horns and beacons located on the airfield.

The ESID is a short-range thunderstorm detection and lightning ranging system that detects both cloud-to-ground and cloud lightning discharges. The ESID provides a range estimate for cloud-to-ground lightning discharges from thunderstorms that occur within approximately thirty 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 alarm dissemination system consists of an alarm transmitter connected to the ESID display. Remote Enunciators (RE) located on the airfield receive the radio signal 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 in intermittent HI-LO tone. The HI-LO alarm tone duration is also 15 seconds. It is important to note that if the audible signal is missed (because an individual was 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 RE's and periodically monitor the status of the beacons. If the beacons are ON the airfield is in a lightning alarm state.

The ESID is presently programmed to trigger an alarm under the following threshold condition:

- Any time lightning is detected in the Overhead (0-5 miles) range.
- Any time two or more lightning events are present in the Near range (5-10 miles) within the 15-minute aging interval.

The ESID system does 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 indicate that conditions are hazardous, take appropriate actions to ensure safety.