Bird Strike Indicator (BSI)
Avian collision monitoring system

BSI is an automated, cost-effective tool for continuous detection and recording of bird collisions on power and communication lines.

The Concern

Bird collisions with power lines and communication towers are a growing concern throughout the world. Collisions not only harm birds, but are a violation of wildlife protection laws and can complicate customer relations. Basing decisions to mark lines on anecdotal evidence or speculation that conditions are conducive to collisions can be arbitrary and expensive. Field researchers can spend long hours manually observing overhead lines for collisions; a costly, labor intensive process that can be error prone due to low light or conditions of poor visibility. Forensic examination of avian carcasses can also be problematic due to detection biases associated with heavy vegetation, water, and scavenger removal. Crippled birds may also fly outside of the research zone.

The Solution

The Bird Strike Indicator (BSI) is an automated vibration-sensing and recording tool designed to detect bird strikes on aerial cables such as power lines and guy wires. It affordably provides utilities the ability to identify the most dangerous line segments and determine the effectiveness of line marking devices. The BSI uses accelerometers to record stress waves and vibrations caused by a bird strike. The BSI sensors are installed on the monitored wires and transmit strike activity wirelessly to a nearby base station where the data is recorded.

Bird Strike Indicator

BSI monitors can be installed on energized lines, and will operate in all weather conditions. Research using the BSI demonstrated that it is as reliable as human observers for detecting collisions, and offers the advantage of providing continuous data recording even in the remotest locations. Data retrieval and changes to BSI settings can be performed remotely.
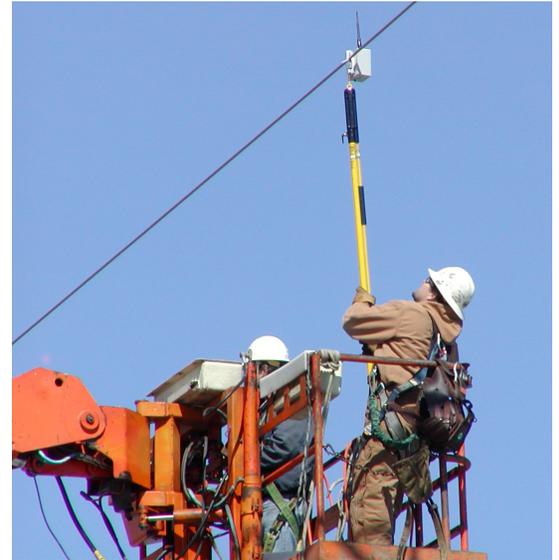
BSI Features

- Wireless communication between multiple BSI sensors and the base station
- Lightweight - can be installed on live lines using a hot stick
- Analog filters minimize interference from weather events
- Automatic daily reporting of sensor health
- Stores strike data in the sensor and reports to base station periodically
- Remote data retrieval from base station via cellular or RF link
- Automatic email notification when strikes occur
- User-friendly interface
- Up to six months autonomous operation
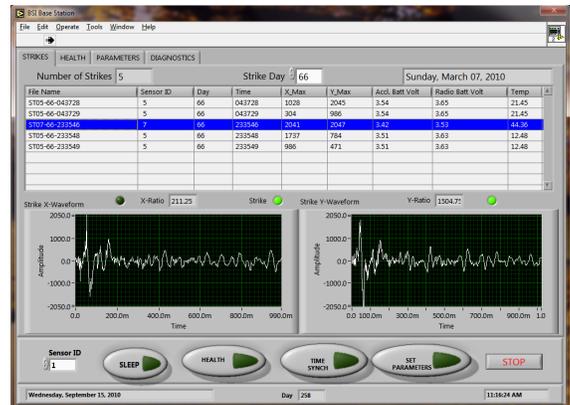
BSI incorporates technology developed by the Electric Power Research Institute and the California Energy Commission.

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