Simulating Lightning Strike with Detonation Cord

The Jones Center at Ichauway

in cooperation with

USDA-APHIS, Wildlife Services

Methods

- To simulate a lightning strike, we used Detonating Cord wrapped in a candy cane configuration around the pine tree. The Detonating Cord is a reinforced, flexible cord with a rating of 50 grains/ft. It contains a center core of PETN, which is a high explosive that detonates at approximately 23,000 ft/second. An electric detonator is attached to the det cord and by the use of a Capacitor Discharge Machine (blasting machine), a charge is initiated to ignite the detonator which activates the det cord.
- Both the electric detonator and detonating cord, in the manner that it was used for this project, is classified as a Division 1.4 Explosive. A Division 1.4 Explosive is an explosive defined by the UN and DOT as having a minor explosion hazard.
- An electric detonator is a detonator that is activated by an electric current of .25 amps or 1.5 volts.
- The Capacitor Discharge Machine (blasting machine) discharges capacitor stored electrical energy into a circuit in which contains an electric detonator.
- The electrical blasting firing line is a solid, duplex copper wire (20 gauge minimum) which connects the blasting machine with the detonator.























