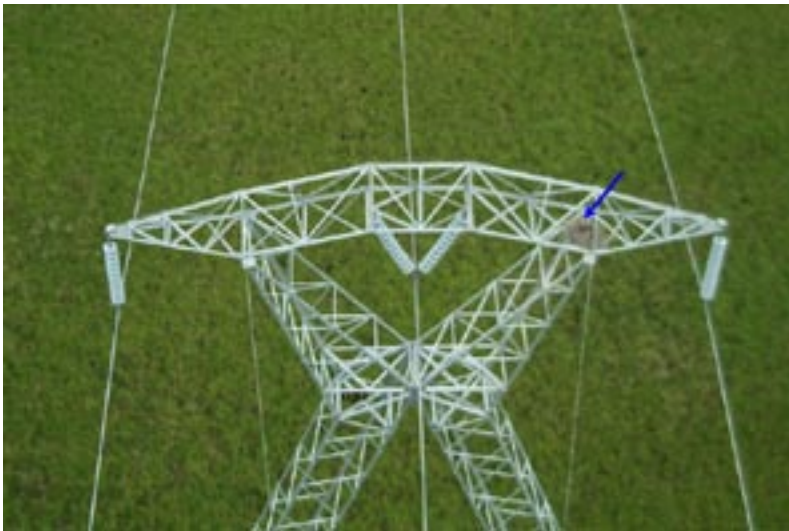


# Chugach transmission line photographic database project

The Haverfield Hughes 500D helicopter is equipped with a digital hi-resolution camera and gyro-stabilized binoculars that allow inspector/photographer Larry Graham to capture a detailed record of each structure.



The following photos identified problems that will be repaired as soon as possible. They are examples of why maintenance inspections are important and how this cost-effective technology helps us find and fix problems before they cause an outage.



Left: This is a view of the top section of a typical aluminum lattice tower on one of Chugach's three Beluga-to-Point MacKenzie high-voltage transmission lines. Take note of the bird's nest in the upper right hand part of the structure. Bird nests are removed annually after the nesting season by permit from the U.S. Fish and Wildlife Service during our annual winter maintenance. Because of the large amount of wetlands and streams, and helicopter-only access in the summer, maintenance on these lines is normally completed during the winter. Emergency maintenance is done as soon as possible after problems are discovered.

Right: This photo shows the V-string conductor attachment device with one cotter pin missing from the conductor shoe and one cotter pin backing out on the yoke plate that ties the string of insulators together. When any of the pins on the device back out there is a chance that the conductor will drop off the tower.





Left: This is Beluga transmission line 2, Structure 40-4, which means it is the fourth structure in the 40th mile of the line. The photo is of one of the outside insulator strings on the structure clearly showing that the fourth insulator up from the conductor has either been shot by a vandal or broken due to some type of impact or vibration.

Right: Pin starting to move. The cotter pin has fallen completely off the conductor attachment which attaches the conductor to the string of insulators. Because of vibration the conductor pin is starting to work its way out. At some point it will no longer be able to support the weight of the wire and the wire will fall.



Above: The cotter pin is bent and the conductor pin has backed out to a point where it may not support the weight of the wire much longer.

Below: This is a conductor attachment on an insulator string on the Quartz Creek 115-kilovolt line. The photo shows that the cotter pin that keeps the conductor pin from backing out due to vibration is in the process of backing out. This can happen over a long period of time and go unnoticed.

