

## Eklund Infrared Newsletter 0114RM2.

**This time of the year the risk for dangerous Corona is higher again!**

**Humidity and higher contamination levels, frost and ice may make cause a high E-Field Condition, leading to break down of the insulation properties of the air!**

High contamination levels and moisture condensation can start a flashover event on insulators!

**The critical E-Field value is approximately 24-30 kV/cm for air!**

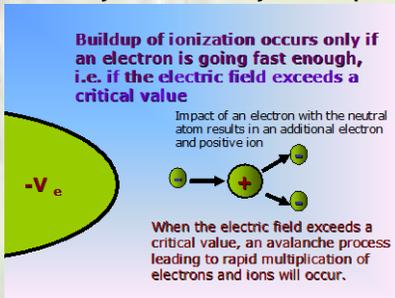


**Our DayCor® Superb™ UVC Corona Camera will see, find and locate invisible dangerous Electrical Corona, Arcing and Partial Discharge!**

The picture to the left show invisible Corona detected on a bushing connection. Very high acoustic corona noise in this substation caused concern that there might be severe corona on insulators. This and other Corona discharges in the substation were detected.

The use of an UVC Corona and Arcing Detection Camera to view and scan the insulators in Substations and lines will detect any Electrical Corona, Arcing and Partial Discharge even in sunny full daylight. Easily detect missing or damaged corona rings, contaminated or broken insulators.

EKLUND INFRARED/Eklund Innovation Inc. rent the UVC **100% Solarblind Corona, Arcing and Partial Discharge Detecting Camera** on a **weekly or monthly basis! The DayCor® Superb™** camera uses the **proprietary OFIL Lindner 260 nanometer UVC Filter** for highest sensitivity available!



**Why is the Solarblind Camera able to detect Corona in full daylight?**

**Please see picture on the left!**

The Electrical Corona is starting when a high electrical field is breaking down the insulating capability of the surrounding air. The Nitrogen in the air is bombarded with free electrons always available around us. When a high electrical field is present, an electron caught within the field is speeding up towards it and hitting Nitrogen atoms in the air.

When this happens, additional electrons are emitted (split off) that hit other Nitrogen atoms thus creating an avalanche effect, producing a cloud of negative electrons and positive ions around the area of the disturbance created by the high electrical field. During the recombination process, radiation is emitted in form of photons (as in light) in the UVC wavelength band. **This photon radiation is detected by the Solarblind Corona camera. The Corona starts and stops 120 times/sec (60 Hz).**

**Electrical Corona on Polymer Insulators** are particularly dangerous (**it produces Ozone & Nitric Oxides which, when combining with moisture, produce very corrosive Nitric Acid**). The covering of the inner fiber glass rod structure can be punctured, resulting in moisture ingress and a loss of insulating properties thus leading to a Flash-over or Flash-under situation. Corona discharge is a major threat to the integrity of non-ceramic polymer insulators (NCI).

**It is easy to do your own Corona inspection when you rent a Corona Camera from us. The Superb™ is easy to work with, it is 100% Solarblind and it is the most sensitive Corona Camera available.**

**Please contact us for your rental need. Our DayCor® Superb™ Rental camera package can be shipped to any of the US continental states.**

Sincerely,

Jan K. Eklund

EKLUND INFRARED/Eklund Innovation Inc.

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PS. If you or your helicopter operators need a Gyro Stabilized Gimbal Camera with Thermal IR, HD 1080i video and/or Corona Camera: call us. We sell the EIR-SweSystem 300Triple & 400Triple and Quad active laser gyro stabilized Gimbal platforms including the new EIR-SWE200LE! The 400Quad has 1024x768 pixel HD resolution IR, UV, DSLR 36 megapixel Nikon still photo and HD/SD 30x zoom Video! PS2. A copy of this page and the DayCor® Superb™ Data Sheet is attached as PDF documents.

See us at HELI-EXPO 2014 in Anaheim, CA, February 25-27 2014! SweSystem Booth # 311.