

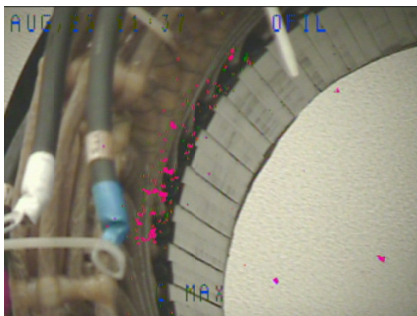
## Beware of Ultraviolet Radiation on Overhead High Voltage Installations

*Corona cameras benefit from being able to see electrical failures in stages when no other technology can see or detect because of their unique implemented core technology that enables seeing ultraviolet radiation which is discharged during air ionization*



What keeps our electrical systems in good shape? Good Maintenance! Manufacturers sell us products and recommend maintenance based mostly on time rather than on condition. As a result we often replace good lubricants and oil simply because we are told to do that at certain intervals. The alternative to time based maintenance is the predictive and condition based

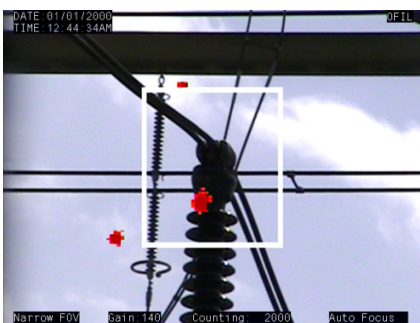
maintenance. The idea here is to assess the condition of an electrical element before treating it, and foresee failure processes aiming at preventing them. Condition based and predictive maintenance relies on inspections and data collecting.



There are indicators of faults that are clear and perceived while others, not less important, are concealed or hidden. Corona, for example, is a phenomenon that indicates the existence of an electrical issue, but corona cannot be seen with bare eyes. Corona behaves as an indicator though at the same time acts as a hazardous discharge and therefore should be detected. Corona creates corrosive material such as ozone and nitric acid which erode insulation

material and corrodes metal, emits ultra violet radiation and creates radio interferences and audio unbearable noise. Corona appears in air on conducting substances with local abnormal high electrical field that induces ionization. Every electrical installation is designed to be corona

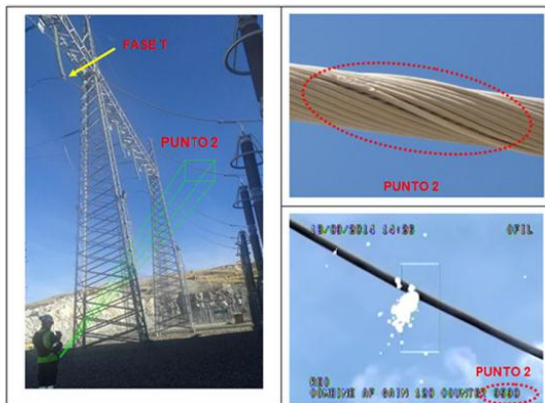
free and therefore if corona appears, it signals that the condition of that installation needs attention or else deterioration is imminent.



The awareness to corona led EPRI in 2000 to develop a daytime corona imager. Ofil was selected by EPRI to collaborate and manufacture the DayCor® camera due to its exclusive capabilities and knowledge how to block daylight and filter UV radiation, the core elements of a

daytime corona camera. Since 2001 Ofil keeps serving the electrical industry providing the most sensitive daytime corona cameras in variations of platforms and costs.

Daytime corona cameras resemble thermal cameras by their ability to perceive spectral ranges that are beyond those visible by human eyes. The difference between thermal and corona cameras is that thermal cameras see IR spectral range (>625 nm) and corona cameras see UV spectral range (<280 nm). Therefore, phenomena that involve heat, current related hot spots, are not seen by a corona camera. While phenomena that involve UV radiation, voltage related partial discharge, and do not dissipate heat are not seen by thermal cameras. Both technologies are indeed complementary.



Utilities, service contractors, high voltage laboratories, motor workshops, line inspectors, maintenance teams, major industrials, manufacturers, mines, distribution companies, etc. use corona cameras routinely. DayCor® cameras are highly sensitive to corona and very accurately provide pinpointed information in real time of existing discharges, as signals of existing electrical faults. Cameras have features that assist inspectors in documenting

finding and use them for reports and recommendations. The cameras are very easy and intuitive to use and operate because they are used similar to any video camera. To supplement knowledge, Ofil offers a three-day course about corona inspection. The class takes place in Atlanta and graduates are eligible for 20 PDHs.

**Ofil Ltd., headquartered in Israel with office in the USA. Manufacturer of daytime corona imaging systems for handheld, driven, aerial and OEM. In business since 1993, with worldwide clientele. Ofil Ltd. is engaged with continuous R&D operations.**  
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