

Raptor electrocutions on electricity pylons



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The electrocution of raptors, especially the large species, is unfortunately a common unnatural mortality factor in southern Africa. The large transmission lines (220 kV to 765 kV) structures are usually not a threat to large raptors, because the pylons are designed in such a manner that

the birds do not perch in close proximity to the potentially lethal conductors. Unfortunately, the same cannot be said of the smaller sub-transmission and reticulation lines of 11 kV to 132 kV. Raptors and vultures instinctively seek out the highest vantage point as suitable perches from where they scan the surrounding area for prey or carrion. In flat, treeless habitats, power pylons often provide ideal vantage points for this purpose. Depending on the design of the pole, a large raptor can potentially touch two live components or a live and earthed component simultaneously. This causes an electrical short circuit through the bird, bridging the gap between live components (called phases) and/or other live and grounded components, almost inevitably resulting in instant electrocution and a concomitant disruption in the electrical supply. Burn marks and contracted claws are typical signs of electrocution.

There are several factors that increase the risk of electrocution:

Wet feathers, which increase conductivity;

- Fighting, mating and gregarious roosting increases the risk of electrocution in that the birds could lose their footing and plunge between the conductors, while birds sitting close together, between live parts, increase the risk of them bridging clearances;
- Lethal poles on higher topographic relief afford greater views of the surrounding terrain, making them more attractive as perches;
- The age of birds is another contributing factor. Young and inexperienced birds are particularly vulnerable as they are generally clumsy at flying and perching on structures, losing their footing and making contact with live components;

- Food outbreaks (e.g. locusts or rodents) or other sources of food (i.e. open air abattoirs) draw birds to an area increasing the risk of electrocution.

High risk species:

Vultures are particularly at risk, due to their large wingspan, which can easily bridge the horizontal distance between phase-to-earth or phase-to-ground components of reticulation and sub-transmission networks. The gregarious nature of the species and their habit of roosting together lends it to multiple electrocutions. Medium to large eagle species, i.e. the Martial Eagle, Verreaux's Eagle, African Crowned Eagle and Tawny Eagle, often use electricity pylons to hunt and to roost on. Large owls, such as the Spotted Eagle-Owl, Cape Eagle-Owl and Verreaux's Eagle-Owl are particularly vulnerable to electrocution on pole mounted transformers and switchgear.

Modification of bird-unsafe structures:

Bird-unsafe structures can be modified in a variety of ways. The most common way is to insulate dangerous live components, and to cut a gap in the earthwire. Sometimes perch deterrents are installed to keep birds away from dangerous areas on the structure.

Eskom, the South African national electricity utility, and the Endangered Wildlife Trust (EWT), entered into a joint venture in 1996 to address the problem of birds and powerlines in a systematic manner. Landowners can play a vital role in protecting both their birds and their electricity supply by reporting any problems involving birds and powerlines on their property to the Eskom-EWT Partnership helpline, on 0860-111-535 or (011) 372 3600

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