

Paris Session 2022



Bird Diverters – Indian Experience and framing of Technical specification

SC B2 Joint PS3 B2&C3: Environmental and Safety Aspects of Overhead Lines Question 3.9: What kind of devices were installed (Bird Protection at the conductors or earth wires)? How reliable are these devices (life cycle)?

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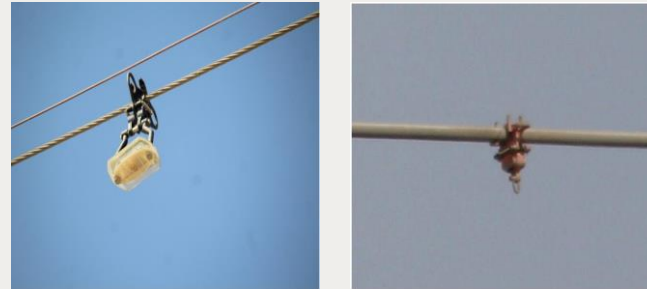
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Based on the evidence of Bird Mortality, Bird Diverters have been provided on Transmission lines passing close to forest/bird habitat area. However after few years , failure in installed Bird diverters observed.

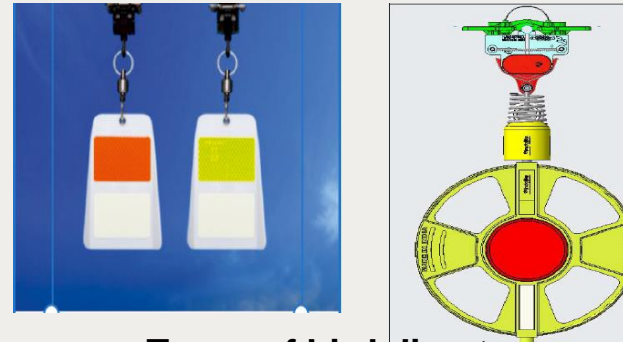
Government of India constituted task force of officials from ministry of Power, CEA , POWERGRID to suggest for remedial measure and after discussion with all stakeholder , technical speciation of Bird Diverters was framed based on international review of different type of bird diverters available in market & their performance and international best practices etc. to facilitate procurement of such device



Birds mortality
Group Discussion Meeting



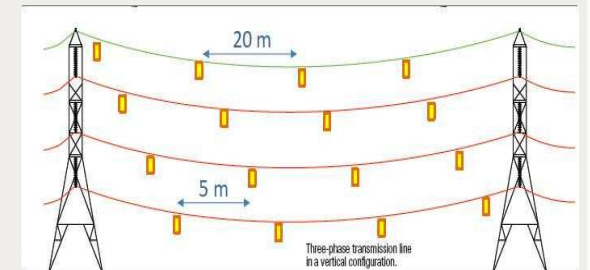
Bird Diverter failures



Types of bird diverters

1. Weight =500 gm to 800 gm
2. Length = 430 mm
3. Retain good physical from - 15deg c to 85 dec C
4. Installed by Hand or hot stick

- Bird diverters shall be placed at a distance of 10 m in the central 80 % of identified span.
- On Earth wire/OPGW in Transmission line having two or more bundle conductor in each phase and conductors also in case of Transmission line having single conductor in each phase.
- Suspended type dynamic Bird flight Diverters shall be used.
- Both LED and Non LED type Bird Diverters



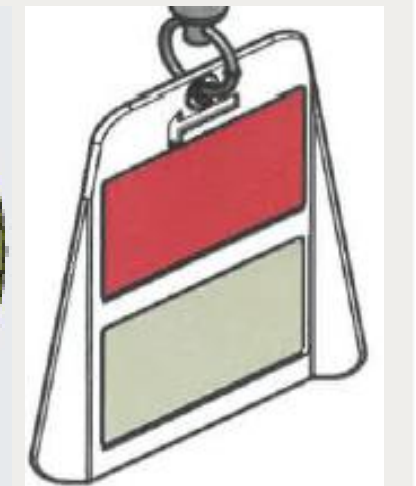
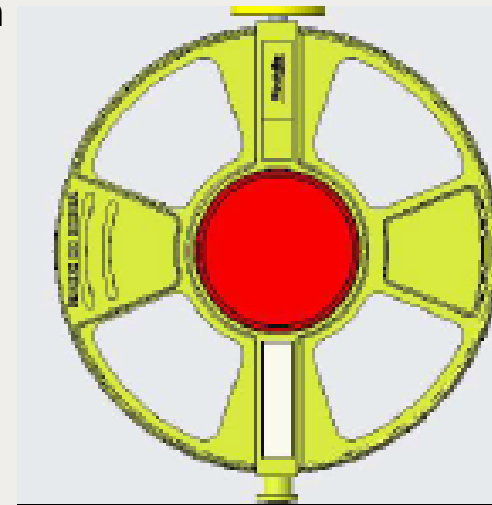
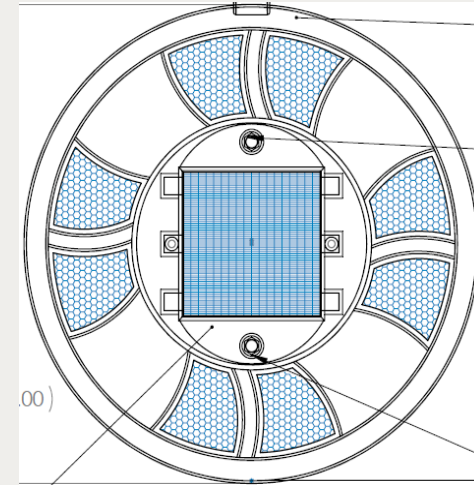
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Salient feature of Bird Diverters.

One rotating Warning Disc attached with wire through Spring loaded clamp.

A. Warning Disc:-

- Should be made through injection moulding of UV stabilized plastic
- Must Swing, sway and should not flip under high wind.
- Should have contrasting coloured retroreflective surface with Sun and Moon reflectors, should glow in dark.
- Dia should not be more than 150 mm, if quadrilateral side shall not be less than 90 mm.
- Minimum total surface area =15000 Sq, mm. Minimum reflective area on each face not less than 3500 sq mm.
- Suspension Hardware fitting should be corrosion free.
- Bearing swivel should spin even with wind speed of 1 km/hr.



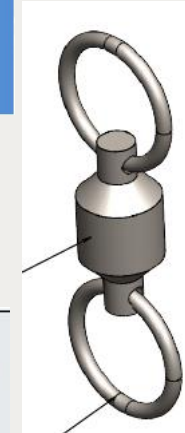
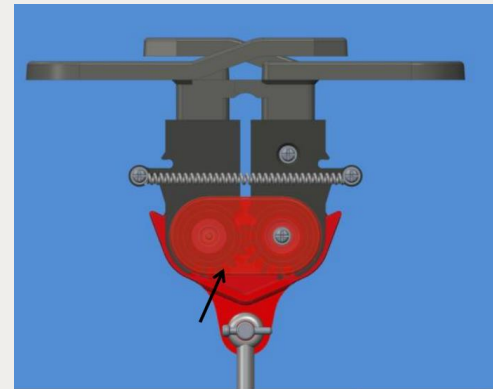
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B. Clamp:-

- Should be of UV stabilized engineered composite plastic or metal or carbon fibre.
- Should have permanent and uniform grip.
- All exposed metals should be corrosion free.
- Should be bad conductor of electricity.
- Should not slip by horizontal force of 250 N
- Should withstand vertical pulling load of 500 N.

C. Test

- Vibration test.
- Temperature Cycle test.
- Corrosion resistance test.
- Heat Cycle test.
- Corona and RIV test.
- Ageing Test.



BEARING

