

SWER Line Effects on Telecommunication Systems

**Dr Hendri Geldenhuys PrEng
Eskom Distribution Technology**

Issues

- Interference
- Safety

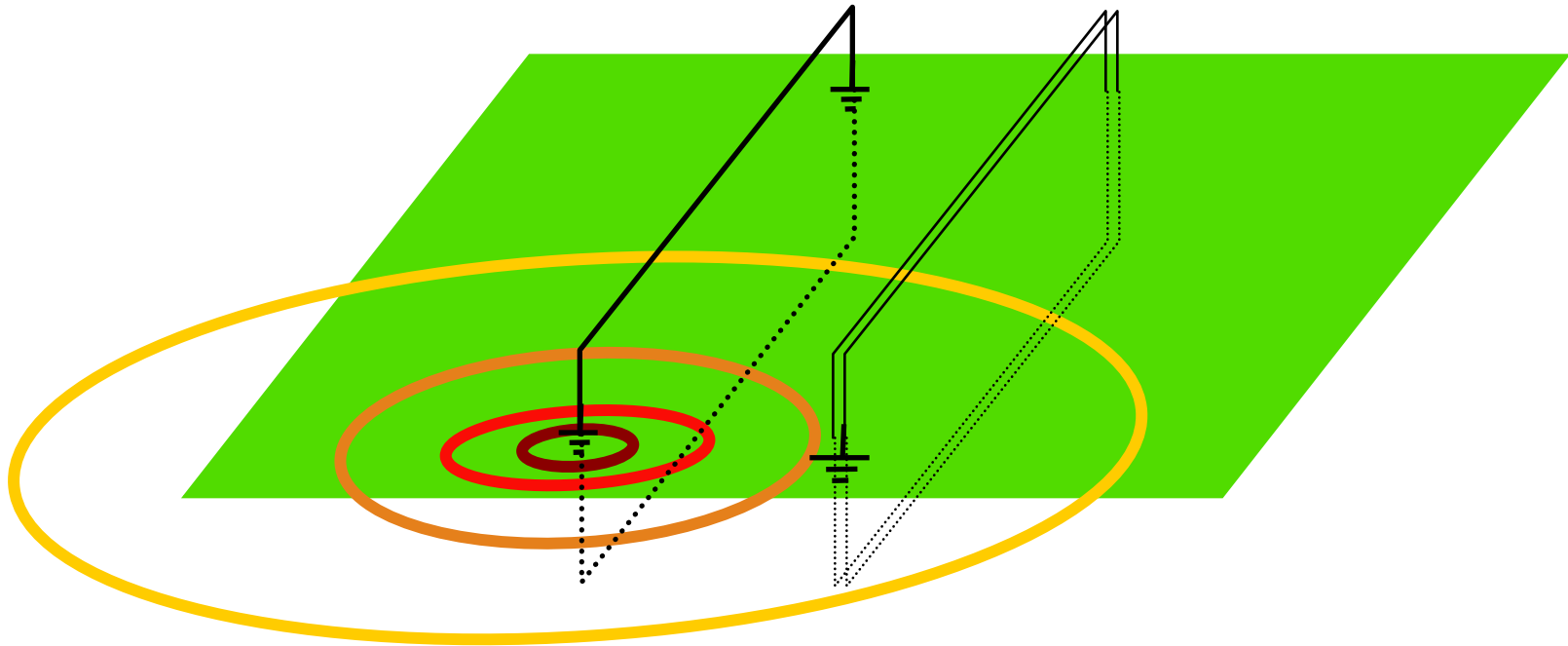
SWER Too Close to Telephone Line



Three Effects:

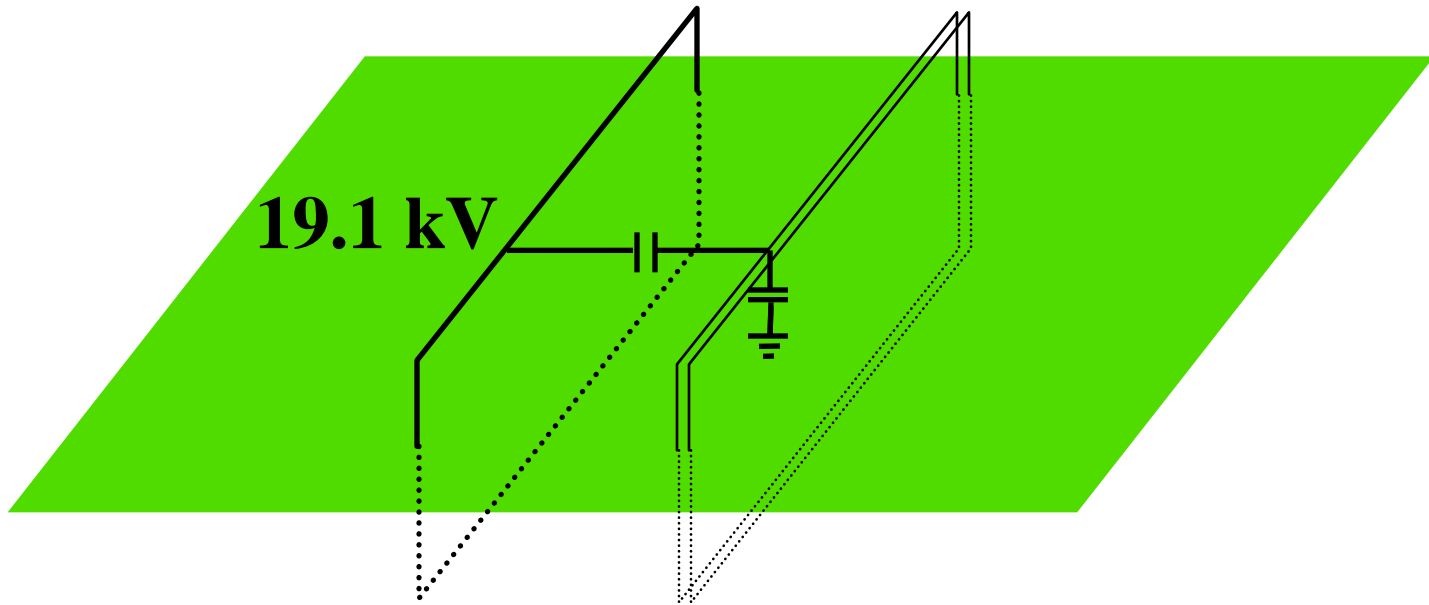
- **Earth Electrode Coupling**
- **Capacitive Coupling (Electric Field)**
- **Magnetic Field Coupling (Current)**

Electrode Earth Potential Rise



**50m Separation between SWER and
Telecommunication Systems with cables**

Electrostatic Capacitive Coupling



SEPARATION DISTANCE

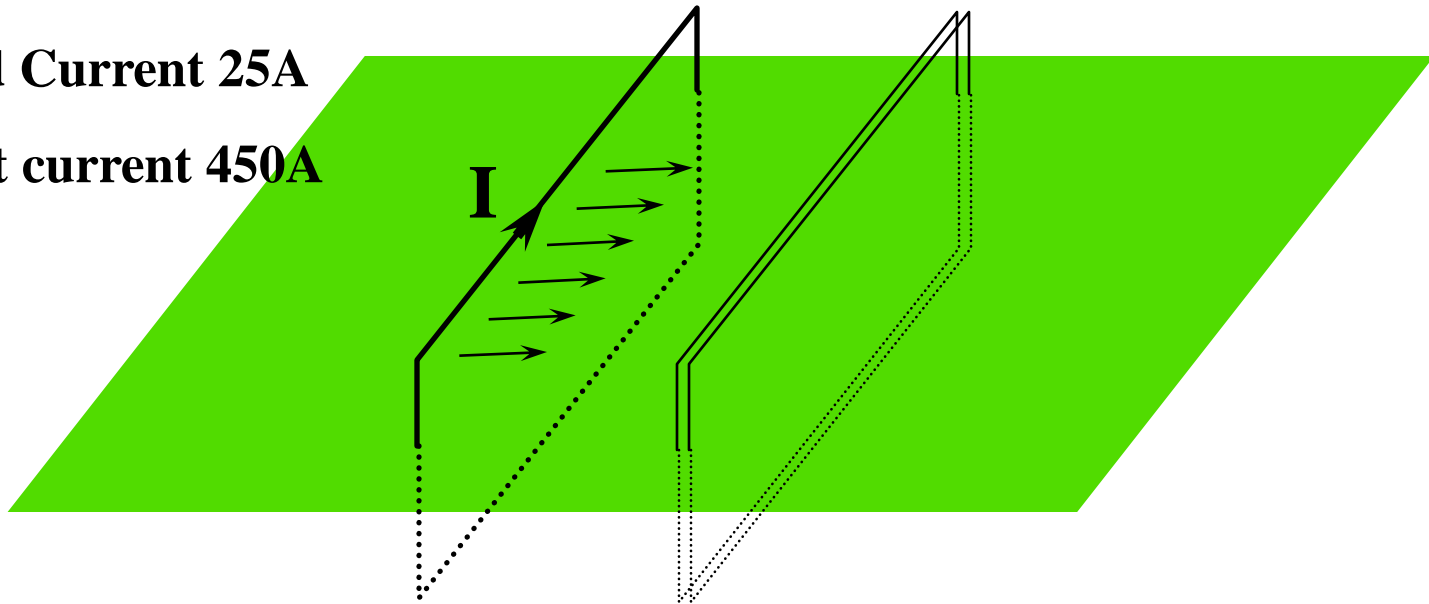
> 75 m

Electromagnetic Coupling (Current)

A LOAD CURRENT EFFECT

Load Current 25A

Fault current 450A



Calculations are required



Telecommunication End