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Technical note:

Abstract:

A comparison is made of the voltage in the conductor of a transmission tower and the voltage inside a cellular telephone.

The distance of a human standing below a transmission tower and the distance of the conductor inside a cellular telephone to a user pressing it against the user's body is noted.

From the above, it is proven that the effect that a cellular telephone can have on a user and the cable used in a electrical transmission tower can have on a human standing below the same is equal.

Reference is made to research conducted which proves the ill effects on humans who live near electrical transmission cables and towers.

A comparison of the cellular telephone case and the electrical transmission tower / cable case is made and the similarity therein highlighted.

Case 1: Electrical transmission tower:

Typical height of tower=15m
Voltage across the conductor=110KV (typical).
Ratio of voltage to distance to the base of the tower (where a human is standing) =110/15=7.33KV/m=**7.33V/mm**

Case 2: Cellular telephone:
Typical distance to user (assuming touching skin)=thickness of cover of cellular telephone=0.5mm
Voltage inside a cellular telephone=3.85V
Ratio of voltage to distance to the distance to a human pressing it against the user's body=3.85V/0.5mm=**7.7V/mm.**

References:

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3341445/
2. https://electricalnotes.wordpress.com/2012/02/17/effects-of-high-voltage-transmission-lines-on-humans-and-plants/