

## Re: O.T. Step Potential ...

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- *From:* "Arfa Daily" <[arfa.daily@xxxxxxxxxxxxx](mailto:arfa.daily@xxxxxxxxxxxxx)>
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"Smitty Two" <[prestwhich@xxxxxxxxxxxxx](mailto:prestwhich@xxxxxxxxxxxxx)> wrote in message  
[news:prestwhich-F3080E.09403415042008@xx](mailto:news:prestwhich-F3080E.09403415042008@xx)

In article <[4aWdnZ6319OvV5nVnZ2dnUVZ\\_u6rnZ2d@xxxxxxxxxxxxx](mailto:4aWdnZ6319OvV5nVnZ2dnUVZ_u6rnZ2d@xxxxxxxxxxxxx)>, "Michael A. Terrell" <[mike.terrell@xxxxxxxxxxxxx](mailto:mike.terrell@xxxxxxxxxxxxx)> wrote:

It all boils down to  
Ohm's law, and the current path to every point that is well grounded.  
If you have no other choice, you want to take as small of a step as possible, but a pair of dry shoes add a lot of protection. It's possible that the ground might only be 10 feet from where the wire touches the ground. If that is a 7200 volt line, that would be 720 volts/foot. In that case you would get a shock, even if you are standing on one foot.

I'm envisioning an episode of Man vs. Wild here...

"I'm being dropped down into a veritable electrical minefield, with hundreds of writhing high tension lines covering the ground for as far as the eye can see. I'll show you how to thread your way through this potentially (sorry) lethal maze by using your pocketknife to fashion a crude voltmeter from an eyeglass hinge, a bootlace grommet, and some carefully woven root fibers from the native weeds."

Bear Grylls could do it too ! Do you get his TV shows there ? He's an ex British Special Services survival specialist, and he's a sort of cross between an escaped mental patient, and Steve Irwin ... Totally mad, but full of *\*really\** useful and practical nuggets of survival technique. He really is the sort of bloke that you would want with you, if you found yourself somewhere really inhospitable ...

Going back to the step potential question, thanks all for your thoughts. You all seem to understand it pretty much as I (thought I) did. I think that the concentric circles thing is just an attempt at simplification so that it makes for an 'interesting' and understandable in principle article in a company mag for general reading by everyone i.e. office staff, managers,

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those in the field and so on. I think we'll settle on there being a potential gradient between the downed cable's point of contact with the ground, and the points around it where the land sinks back to inert ground potential. We'll also take it that this could be largely round, and very gentle if you were in an open field, and might be far from round and steep in particular directions towards nearby 'good' grounds in an urban area. Further, the gradient might be linear, and might not, depending on ground conductivity in any direction between the point of contact, and inert ground potential. Sound a reasonable analysis ?

Arfa