Theoretically, you could take the same types of basic electrical field readings with an oscilloscope or ScopeMeter®, but those tools typically are less readily available during ordinary service operations, and their higher level of sensitivity, while providing more information, almost makes them harder to use for basic detection purposes.

To demonstrate the DMM/clamp meter system, Newcombe approached a closed power panel in an industrial manufacturing plant. Readings quickly appeared – first basic hash from a mish-mash of surrounding low-level fields typical of any setting powered by electricity, then significantly higher readings as he approached one of the building's main transformers.

He next switched to the Hz function and 180 Hz flashed on the meter's display.

"This tells me there are some harmonics coming out of this transformer," he said. "It's a higher harmonic level than I'd expect to see. If I took a series of readings over time and these levels persisted or got larger, I'd want to look at the voltages and currents in the panel with my ScopeMeter or power quality analyzer to get more in-depth information."

Moving around the building, the DMM/clamp meter registered low-level fields around another panel's main switches. Readings climbed near the closed panel of a large variable speed motor drive. "You'd see all kinds of hash here with an oscilloscope," Newcombe said, moving the clamp meter over the closed panel door with its jaws held open. Later, in front of a computer monitor, readings climbed a bit when held within an inch or so of the screen, then dropped dramatically a few inches out. "They go down real fast the further away you get," he said.

This seat-of-your-pants system will never replace a gauss meter, but it's a quick way to see if an electrical field is out of whack if all you happen to have with you are your basic test tools. And it's worth a wager or two if you have work mates who haven't run across the trick.

"You don't have to bring along an extra tool. That's the advantage," Newcombe said.

Fluke. *Keeping your world up and running.*