





Why was the WG formed?

Media Misinformation

Frivolous and Expensive Litigation

Unnecessary and Expensive Government Regulation

Conflicting Official Definitions





Michigan Taking Legal Action Over Stray Voltage

LaCrosse Tribune 02/13/02

"The case boils down to a single point -- electricity belongs on the power lines, said Peter Lark, assistant in charge of special litigation."

Unnecessary and Expensive Government Regulation

2004 Wisconsin Assembly Bill 529 "The Electrical Bill of Rights"

No current on utility grounding conductors for longer than 5 seconds
Creation of an Electrical Pollution Board

- Creation of an Electrical Pollution Fund
- Large utility fines for non-compliance (\$1000/grd/day)

Conflicting Official Definitions

Public Service Commission of Wisconsin (PSCW)

Stray voltage is a special case of voltage in which the <u>neutral to</u> <u>earth voltage</u> is present across points (generally grounded metal objects) in which a current flow is produced when an animal comes into contact with them.

Stray voltages are low-level voltages and <u>should be distinguished</u> <u>from painful shocks felt by humans</u>.

Conflicting Official Definitions

New York State Public Service Commission

"The term stray voltage means voltage conditions on electric facilities that <u>should not ordinarily exist</u>. These conditions may be due to one or more factors, including but not limited to damaged cables, deteriorated, frayed or missing insulation, improper maintenance, or improper installation."¹

4: CASE 04-M-0159 - Proceeding on Motion of the Commission to Examine the Safety of Electric Transmission and Distribution Systems.









Abnormal Voltages	
Voltages that exist at accessible locations as a result of the presence of a system fault (i.e. short and/or open).	
These voltages:	
Are <u>uncommon</u> . Can be hazardous. Can be easily detected. Can be successfully managed.	
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rower frequency kelated voltages		
From IEEE 100:		
power frequency (1) The value of freque system, such as 50 Hz	ency used in the electrical power or 60 Hz. (EMC) C63.13-1991	
Related to the operation	on of the power system:	
harmonic voltages switching transients (n power line carrier volto fault voltages etc.	nulti and sub-cyclical) ages	
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Important Points

There are publicly accessible voltages related to normal system operation that <u>must</u> be present, and there are publicly accessible voltages related to abnormal system operation that <u>should not</u> be present. These are two very different things that should be defined and discussed separately.

Human and animal exposure to conducted current is well understood. We want the reader to learn something about the science behind existing exposure standards; where to find, and how to apply these standards. This is necessary so that informed decisions can be made regarding the degree of hazard that exists and what, if anything, should be done about it.

We want to provide the reader with the knowledge and tools necessary to make meaningful measurements. This will enable identification of sources and, if necessary, aid in selection of appropriate mitigation alternatives.

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Trial Use Guide for Assessing Voltages at Publicly and Privately Accessible Locations (IEEE-P1695) Outline Draft 6/24/2007

- 1. Overview (Required) Scope and Purpose of the Guide
- 2. Normative References (Required) Documents necessary to understand and use the Guide (e.g. USDA Handbook 696)
- 3. Definitions/Acronyms/Abbreviations (Required)

4. General Discussion

Reasons for confusion surrounding the issue, some amount of measurable voltage will always be present, contact voltage v. stray voltage, sources are both primary (utility) and secondary (customer), grounded v. ungrounded systems, etc.

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