

Michigan Update on Recent Legal Developments in Stray Voltage

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Objectives

- ❑ Overview - Why is Stray Voltage important in Michigan?
- ❑ Separation of Neutrals in Michigan
- ❑ Most significant legal development in Michigan
- ❑ Possibility of a “stray voltage standard”

Number of Milk Cow Operations

State / Year	2001	2002
Michigan	3,300	3,200
Wisconsin	19,100	17,800
Pennsylvania	10,300	9,900
Minnesota	7,800	7,200
New York	7,200	7,100
Ohio	5,200	5,100
Iowa	3,500	3,200
Indiana	2,900	2,600
Illinois	1,900	1,800

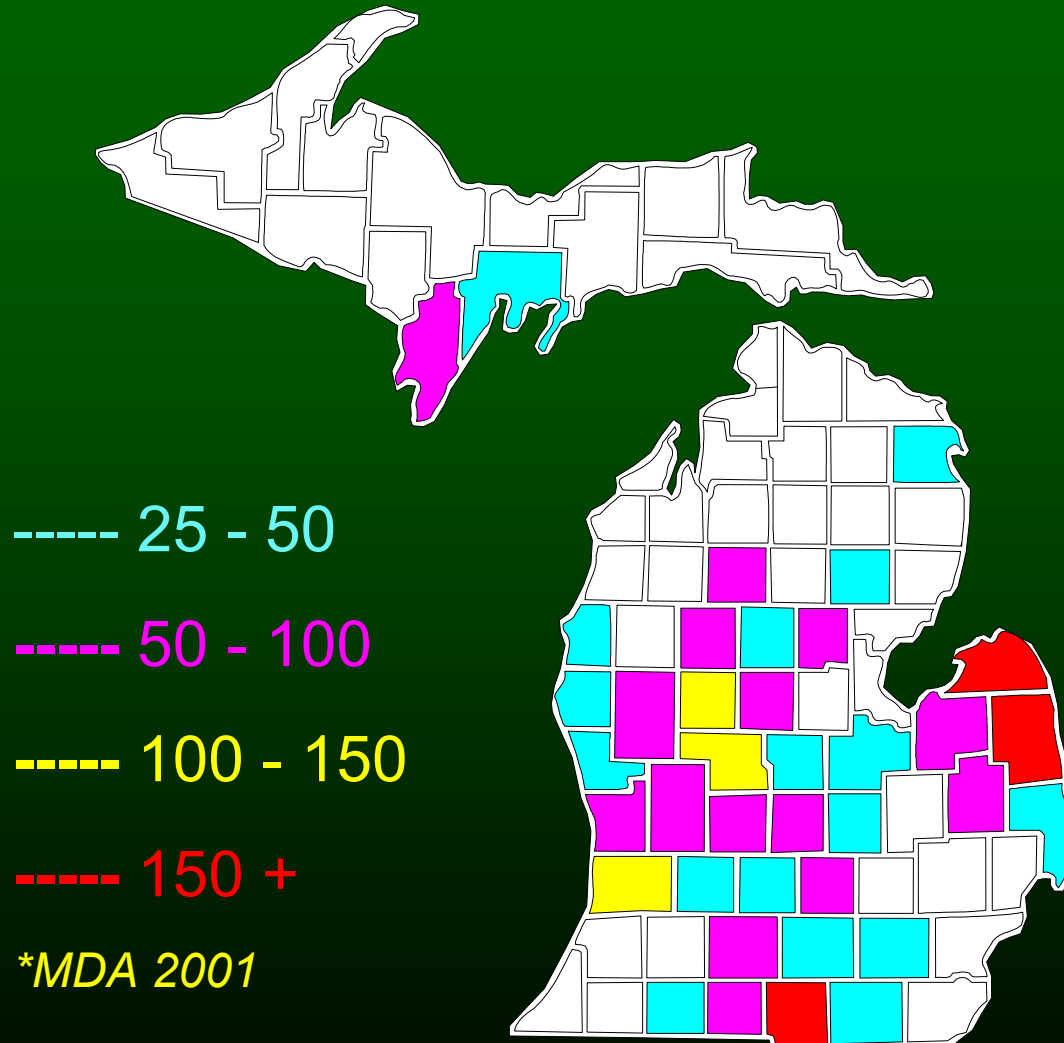
**National Agricultural Statistics Service (NASS)*

Total Milk Cows (x 1000)

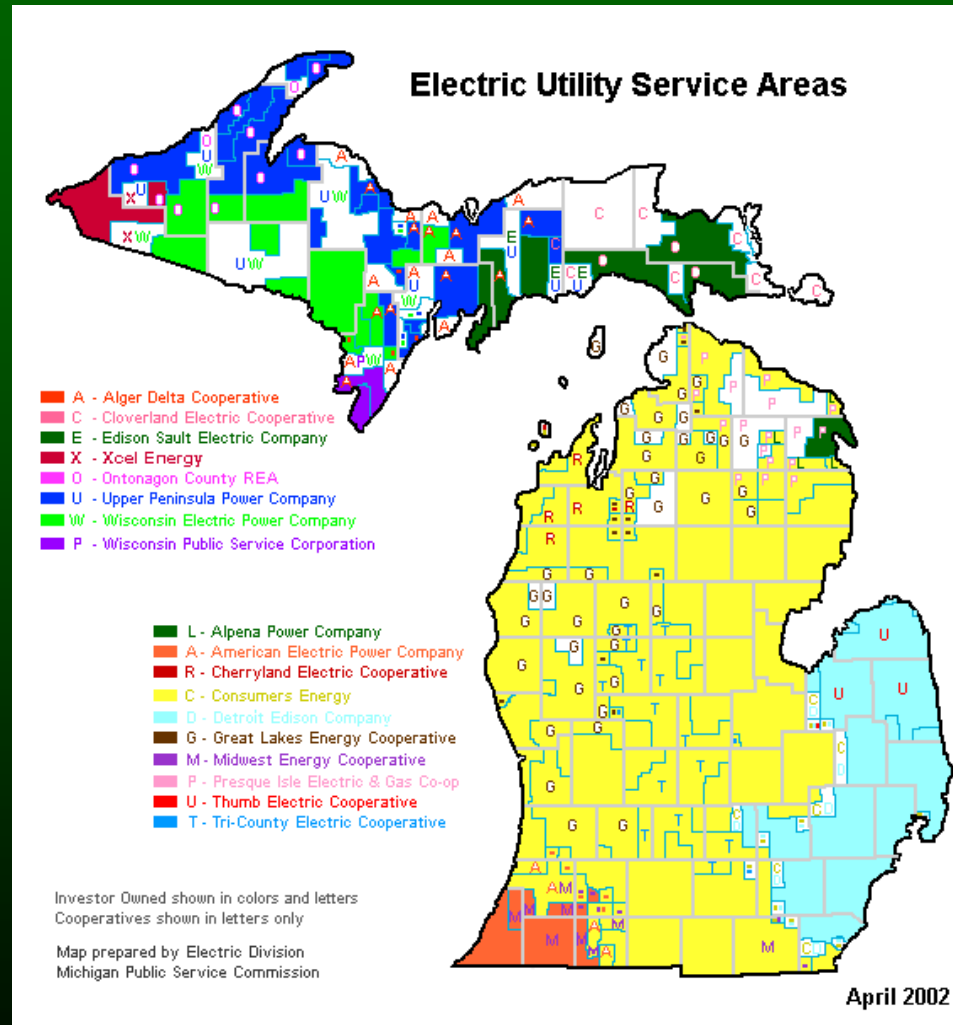
State / Year	2001	2002
Michigan	299	301
Wisconsin	1,280	1,266
Pennsylvania	592	590
Minnesota	500	480
New York	675	680
Ohio	258	260
Iowa	206	208
Indiana	155	146
Illinois	115	115

**National Agricultural Statistics Service (NASS)*

Michigan Dairy Herd Distribution



Michigan Electric Utility Service Areas



Michigan Electric Cooperatives



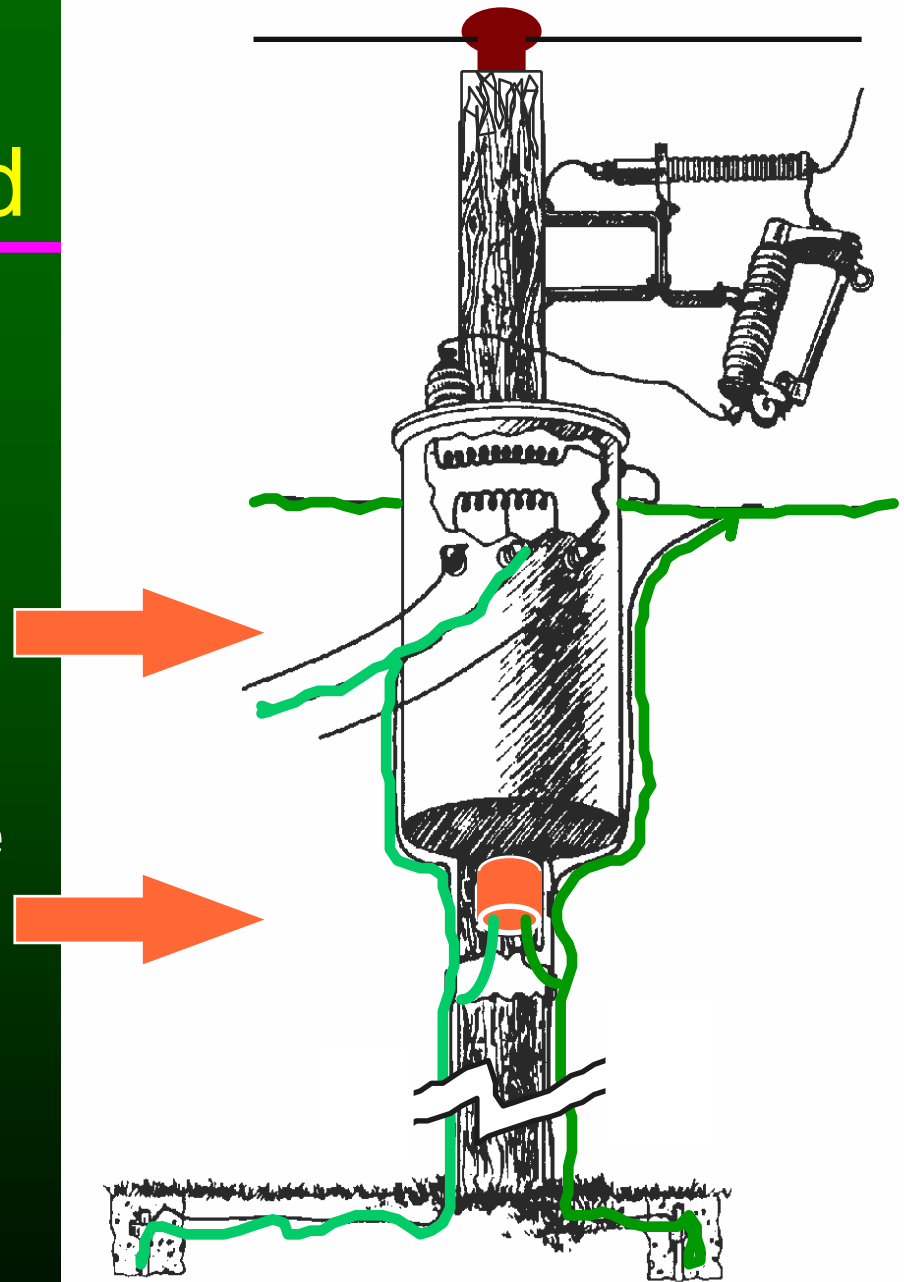
*MECA 2003

Separation of Neutrals

- ◆ Many Michigan utilities to use “separation of neutrals” as a method to reduce Neutral-to-Earth Voltage entering or leaving farms via the primary distribution system

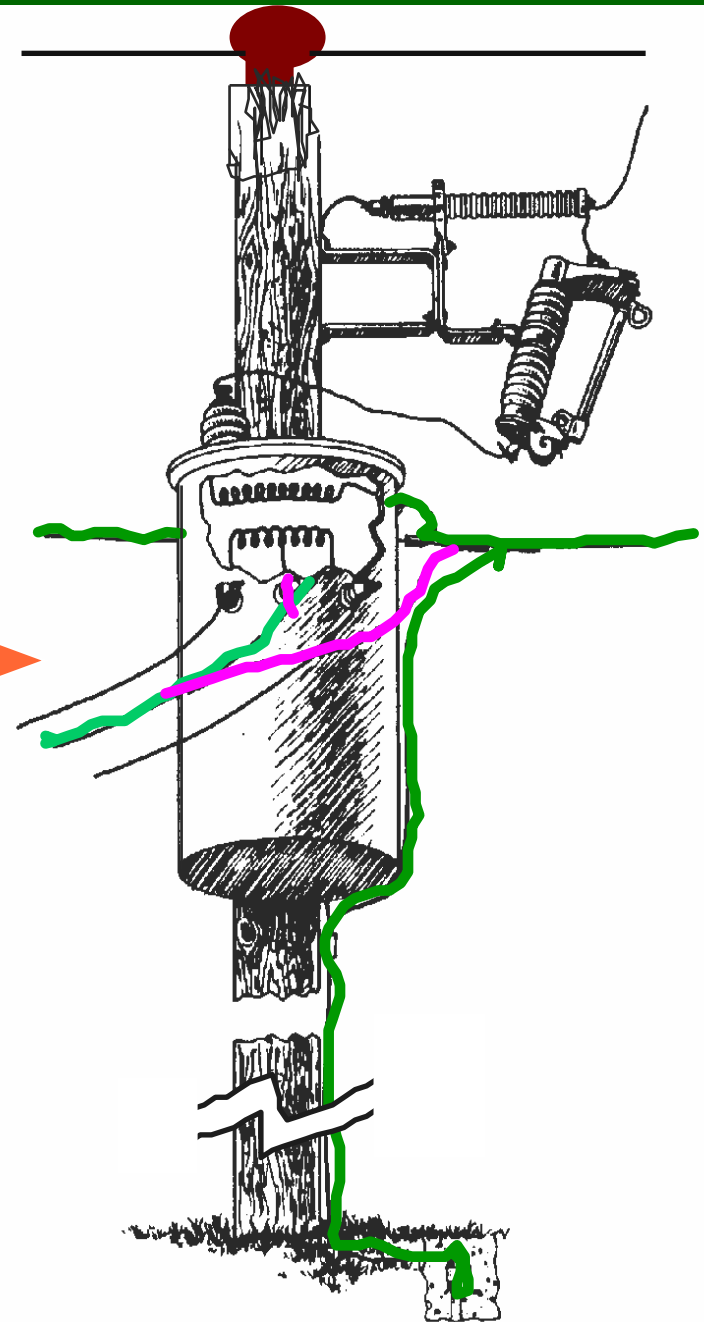
Neutrals Separated

- The power line neutral and the farm neutral are separated
- A safety reconnect device rejoins the neutrals in case of emergency



Neutrals Connected

- The power line neutral and the farm neutral are connected
- At this point N_pEV and N_sEV can not be distinguished



Attorney General Complaint against Consumers Energy to MPSC

- ◆ Filed in 1998 U-11684
- ◆ Complaint requested order requiring:
 - C.E. cease and desist from allowing any S.V. or current flowing from its electric system into the earth and onto private property.
 - C.E. to upgrade and improve its distribution system and to operate and maintain this distribution system so as to eliminate all S.V. or current flowing from its distribution system into the earth and onto private property.
 - Remove S.V. costs from rates

Attorney General Complaint against Consumers Energy to MPSC (cont.)

- ◆ MPSC requested testimony from A.G. in 1999
- ◆ A.G. filed direct testimony in 2000
- ◆ MPSC filed direct testimony in 2001
- ◆ C.E. filed direct testimony in 2001
- ◆ Cross examination Sept. - Oct. 2002
- ◆ Briefs filed Dec. 2002 – Jan 2003

Attorney General Complaint against Consumers Energy to MPSC (cont.)

- ◆ The record consists of 41 volumes totaling ~ 5000 pages and 300+ exhibits
- ◆ The Administrative Law Judge is currently writing his brief
- ◆ Then A.G., C.E. and MPSC write rebuttal briefs

Attorney General Complaint against Consumers Energy to MPSC (cont.)

- ◆ Then the MPSC Commission will review
 - Commission of three
 - New appointee in June selected by the Governor of Michigan
- ◆ Maybe something decided by Fall 2003
- ◆ Possible outcomes?
 - MPSC Staff recommends a standard

Standard for Animal Contact Current

- ◆ Rule proposed in 1997 U-11368
 - Standard
 - Complaint investigation procedure
 - Testing procedures
- ◆ No action was taken and U-11368 was closed in 2000
- ◆ Work in progress

Neutral-to-Earth Voltage Evaluator Training

- ◆ May 13 - 15, 2003
- ◆ 25 hours of instruction
- ◆ On-farm NEV evaluation
- ◆ MAEC and Ag. Engineering, MSU
 - Truman Surbrook
 - Jon Althouse
 - Keith Tinsey

MAEC information at www.egr.msu.edu/age