

STRAY VOLTAGE

In recent years, stray voltage has become a concern among dairy and other livestock farmers. The United States Department of Agriculture defines stray voltage as “a difference in voltage between two surfaces that may be contacted simultaneously by an animal.” When this occurs on a dairy farm, the cow acts to complete the circuit and, if voltage levels are high enough, she may experience a small shock or tingle. Research shows that stray voltage at levels in excess of the Public Service Commission of Wisconsin's level of concern may increase cow stress and result in behavioral changes. These changes may lead to health problems, as well as decreased milk production.

A wide variety of on- and off-farm sources can contribute to stray voltage:

- Inadequate connections on the neutral or ground wire system
- Poor grounding conditions
- Undersized neutral conductors
- Dirty, dusty, corroded, cobwebbed or damaged electrical boxes and devices.
- Defective electrical equipment

The Public Service Commission of Wisconsin and the Department of Agriculture, Trade and Consumer Protection jointly have established the Rural Electric Power Services program to work with farmers in resolving herd health and production problems, providing outreach and technical assistance.

Since stray voltage is a phenomenon associated with on-farm wiring and electrical connections to the local distribution system, questions and concerns about stray voltage are best addressed by the utility company that serves the farm. These utilities offer on-site investigations and can recommend steps to correct stray voltage problems. Following is a list of contacts for more information.

UTILITIES

Alliant Energy

Robert J. Fick
608-742-0838

We Energies

Susan Crane
262-763-1059

Wisconsin Public Service Corp.

Al Herrman
920-433-1613

Xcel Energy

Kevin Schnack
715-836-1169

ORGANIZATIONS

Midwest Rural Energy Council

www.mrec.org
608-262-5062

Public Service Commission of Wisconsin

Rural Electric Services Manager
Mark Cook
608-267-7968
<http://psc.wi.gov>

Dept. of Agriculture, Trade and Consumer Protection

Rural Electric Services Manager
Dave Hansen
608-224-5055
www.datcp.state.wi.us