

## ELKHORN RURAL PUBLIC POWER DISTRICT

### POLICY #3360

#### STRAY VOLTAGE

SUBJECT: Neutral-To-Earth Potential (Stray Voltage)

I. Objective: The District will investigate a Consumer's perceived problem with Neutral-To-Earth Potential (N/EP) upon his/her request.

II. Policy:

A. The District provides electric energy and service to its consumers utilizing a multi-grounded, three-phase, wye connected distribution system in accordance with applicable codes and standard utility practice. Because the multi-grounded neutral carries current, it will have voltage (potential) on it with respect to earth. Neutral-To-Earth Potential (N/EP) is the voltage measured between earth and the neutral conductor in either the Consumer's or the District's electrical distribution System. The N/EP levels are satisfactory for the large majority of consumers. Those consumers having electrical services requirements which do not tolerate these N/EP levels are deemed to have special electric service requirements. A problem due to N/EP is defined here as any level of N/EP which is measurable by physical means, and is perceived to be a problem by the Consumer. This N/EP level is called an "undesirable level".

B. When a complaint of N/EP is received, the District will conduct tests in cooperation with the Consumer's electrician or equipment technician. If these tests indicate N/EP levels exceeding the undesirable levels are on the District's system, the District will correct identifiable deficiencies on its system.

If the consumer's electric installation is identified as causing the undesirable level, the District may make recommendations to the Consumer and the Consumer's electrician on methods to resolve the problem. The District assumes no responsibility for the degree of correction made by these recommendations.

C. If the N/EP remains at undesirable levels after all identifiable District and Consumer wiring and grounding improvements have been made, the Consumer shall be advised that special equipment may be required at the Consumer's expense to reduce the effective N/EP level. If the Consumer desires to have the neutral isolation device installed, the device will be installed by the District for a 90 day evaluation test period. If it is agreed by the Consumer that the device remain connected to the system after the evaluation period then a special equipment charge shall be made to the Consumer for the neutral isolation device.

D. The neutral isolation device will be installed only after the Customer has been fully advised of the risks associated with the device and has acknowledged in writing his or her willingness to accept such risk.

The conditions of installation, evaluation and removal shall be set forth in the "N/EP Evaluation Agreement #5230" and completed by the District and the Consumer before the device is installed for the evaluation test period.

III. Responsibility: It shall be the Consumer's continuing responsibility to notify the District if a perceived Neutral-To-Earth problem exists or returns. It shall be the Manager's responsibility to see that all reported N/EP problems are investigated by District personnel and the results of the investigation are documented.

Adopted: August 14, 1990  
Revised: August 11, 1992  
Reviewed: September 11, 2000  
Revised: October 12, 2010  
Revised: March 10, 2015