

**EGYPTIAN ELECTRIC COOPERATIVE ASSOCIATION
POLICY BULLETIN NO. 512**

SUBJECT: STRAY VOLTAGE

POLICY:

PURPOSE

The purpose of this policy is to implement a procedure to be utilized when investigating a neutral-to-earth voltage complaint.

OBJECTIVE

To provide a uniform procedure for all consumer-member neutral-to-earth voltage complaints, so as not to cause unnecessary cost to one class of service from another class of service requiring different standards.

CONTENT

- A. Egyptian Electric Cooperative Association provides electric energy and service to its members utilizing a multi-grounded distribution system. To achieve a low-impedance return path, the distribution line uses the earth in parallel with the system neutral conductor so that return current enters the earth via ground rods on the primary neutral, grounded rods at the member's service, or a member's grounded facilities which are bonded to the secondary neutral. The use of this multi-grounded system greatly enhances the safe operation of the distribution system for all concerned.
- B. The multi-grounded neutral carries current and will, therefore, have a voltage on it. This voltage is a normal system voltage and can be measured on any primary or secondary neutral conductor because they are bonded together. The level of voltage will vary depending on the consumer-member's energy utilization and the other loads on the line. The voltage actually measured on the consumer-member's secondary system will depend on the level of neutral current and on the condition of the member's wiring, the equipment connected, and the system grounding.
- C. This type of neutral connection has been, is, and will be the standard for all points of service. This type of connection provides maximum safety in case of lightning or other fault conditions. Under normal operating conditions, this type of connection also keeps neutral voltages low enough so that there is minimal risk of injury to people using the system. However, the neutral voltages, whether arising on the cooperative's or the member's system, cannot always be kept at the level generally believed necessary to assure that no operations will be affected.

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- D. The procedure below shall be utilized when investigating a neutral-to-earth voltage complaint:
1. The member needs to consider whether his or her service requirements are more stringent than those of other members. For example: the dairy cattle and other livestock are more sensitive to low voltage. The member is encouraged to construct their facilities in a manner that will satisfy their special requirements. However, if the member suspects that normal neutral-to-earth voltages are affecting their operation, the member shall have the responsibility to inform the cooperative.
 2. Egyptian Electric Cooperative Association will respond to all neutral-to-earth voltage inquiries as soon as possible. All inquiries will be directed initially to the Engineering Department. The Engineering Department will make an appointment for an on site inspection with the member. The member will be responsible for having an electrician present during the inspection.
 3. The Cooperative shall test to determine the level of neutral-to-earth voltage present on the members secondary. This test will be performed at no charge to the member.
 4. Egyptian Electric Cooperative Association will correct any identifiable deficiencies on the Egyptian Electric Cooperative Association electric system. The member will be responsible for correcting any deficiencies to their own system.
 5. After correcting any deficiencies, and if the member deems the level of neutral-to-earth voltage to be unsatisfactory for his or her application, the member may elect to install available remedial devices on his or her secondary service to bring the standard of service within his/her requirement, or may request nonstandard service from the cooperative. In its discretion, after considering safety and other factors of its system operation, the cooperative may provide nonstandard service. The cost of such service shall be borne by the member.
- E. A request for a neutral isolating device shall be considered a request for nonstandard service. Prior to installation of the device, the member shall sign a *Neutral Isolation Switch Agreement* and agree to pay a contribution in aid to construction charge. The isolation device will be owned and maintained by the Cooperative. The total aid to construction shall be the entire amount agreed to in the *Neutral Isolation Switch Agreement*.
- F. If the member requests that the neutral isolation device be removed from his/her service, the member shall sign a *Neutral Isolation Switch Removal Agreement*. The Cooperative will retain a portion of the contribution in aid to construction as specified below.

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1. The Cooperative shall retain a portion of the total contribution in aid to construction depending upon the amount of time that the device was installed at the service.

% of Total Aid to Construction to be retained by the Cooperative:

<u>Installation Period</u>	<u>%</u>
0-3 months	33%
3-12 months	50%
1-2 years	66%
> or = 2 years	100%

2. The total aid to construction shall be the entire amount agreed to in the *Neutral Isolation Switch Agreement*.
3. Deviations from this policy must have the written approval of the General Manager/Executive Vice President.

RESPONSIBILITY

The responsibility for carrying out this policy shall rest with the Executive Vice President/General Manager and the Engineering Manager. All handling of invoices and records shall be in accordance with the Cooperative's purchasing procedures.

Adopted: 8/24/2004

Attested: Gilbert Kroening, Secretary