

RADIANT ELECTRICITY AND OVERVOLTAGE OF UNGROUNDED POWER SYSTEMS

Background:

In one conversation with my chief, he mentioned an event in which a client for one of the facilities placed an electronic apparatus connected to the neutral of a secondary delta-wye 480/277V transformer. The apparatus smoked. The facility personnel thought that the apparatus was defective and sent it back to the manufacturing company. After receiving a new one, the facility reinstalled the apparatus and it smoked again.

It was, then, when the facility asked the Engineering Department (ED) to help solving the problem. The ED sent a technician to measure the neutral voltage. The problem that caused the equipment burn was due to the high tension of the neutral voltage. The magnitude of the voltage between the neutral and ground was measured in thousands of volts.

It was later found that the contractor had used the rigid galvanized steel conduit as the only means for grounding the system. As the conduit corroded, the ground connection was lost and the system became ungrounded.

The answer to this high voltage event can be found in one of the free energy patents awarded to Nikolas Tesla in 1901 with number 685,957. Figure 1 of this patent shows the following:

No. 685,957.

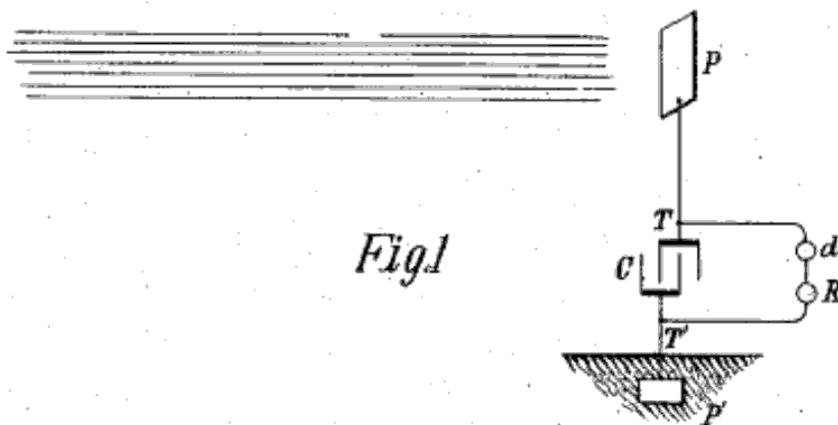
Patented Nov. 5, 1901.

N. TESLA.

APPARATUS FOR THE UTILIZATION OF RADIANT ENERGY.

(Application filed Mar. 21, 1901.)

(No Model.)



Tesla Experiment:

In accordance with Tesla, when one of the terminals (T') of a capacitor (C) is connected to ground (T') and the other terminal (T) is connected to an aerial antenna (i.e., a metal plate P), the capacitor (C) will continuously charge up to an infinite voltage or until the capacitor dielectric strength fails. This event was discovered by accident. Tesla had invented a receiver for his radiant energy generator. However, he was surprised to find out that the receiver was being charged even when the generator was turned off.

The “Cosmic Rays” (as Tesla also called them) were capable of charging metals in a form of electrostatic charge. Eventually, Tesla estimated the amount of cosmic energy falling onto the earth surface, and speculated that this energy was responsible for keeping molten the earth iron core.

Relation to Ungrounded Power Systems:

The overvoltage of the neutral can be explained as follows:

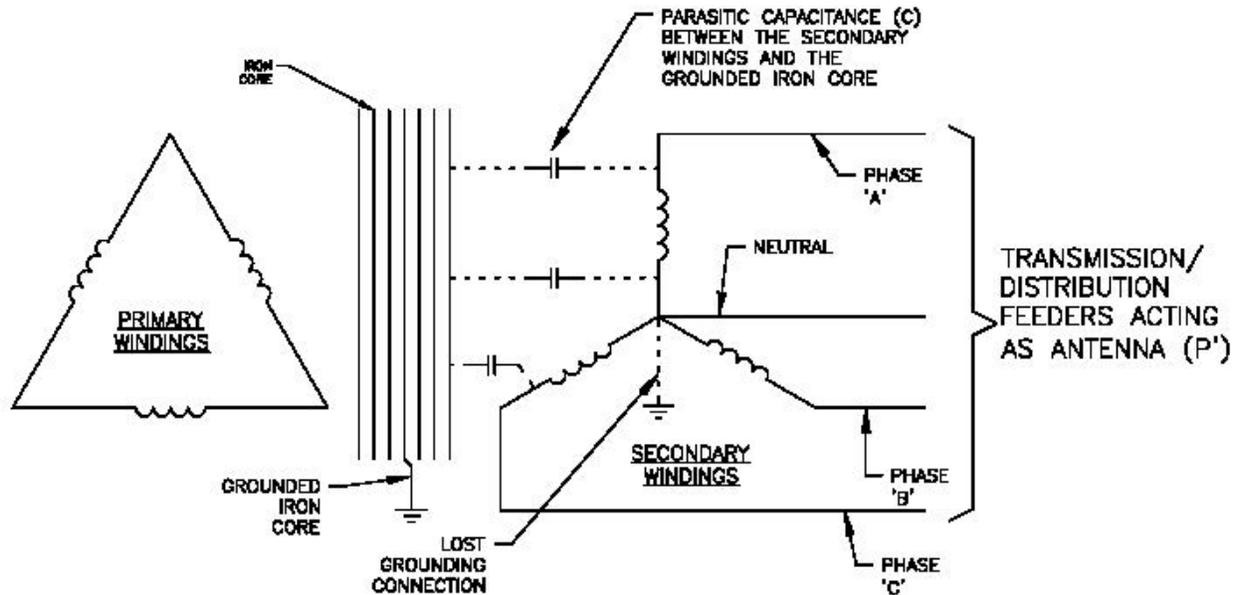


FIGURE 2

As seen from the figure 2 above, and in accordance with Tesla’s discovery, the parasitic capacitance formed between the transformer secondary windings and the grounded transformer metal core form a circuit similar to the free energy device shown in figure 1 above. The feeder containing the phases and neutral cables acts as the antenna (P). While the parasitic capacitance between the transformer secondary windings and the grounded metal structure (i.e., transformer core, enclosure, etc.) behaves as the capacitor (C). This induced voltage can reach a magnitude that would damage the windings insulation.

The following question is in order, how such important information for designing power systems is not found in the text books for electrical power systems? The answer is simple, SUPPRESSION!!!

There has been many free energy aerial devices, one of them is the 50KW aerial system invented by Dr. Thomas Moray. See the following link:

<http://www.rexresearch.com/moray2/morayrer.htm>

http://en.wikipedia.org/wiki/Thomas_Henry_Moray