

## NIKOLA TESLA'S RADIANT ENERGY SYSTEM

by Bruce A. Perreault

### Brooklyn Eagle July 10, 1932 Nikola Tesla states:

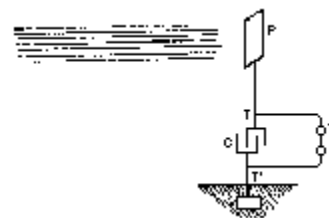
I have harnessed the cosmic rays and caused them to operate a motive device. Cosmic ray investigation is a subject that is very close to me. I was the first to discover these rays and I naturally feel toward them as I would toward my own flesh and blood. I have advanced a theory of the cosmic rays and at every step of my investigations I have found it completely justified. The attractive features of the cosmic rays is their constancy. They shower down on us throughout the whole 24 hours, and if a plant is developed to use their power it will not require devices for storing energy as would be necessary with devices using wind, tide or sunlight. All of my investigations seem to point to the conclusion that they are small particles, each carrying so small a charge that we are justified in calling them *neutrons*. They move with great velocity, exceeding that of light. More than 25 years ago I began my efforts to harness the cosmic rays and I can now state that I have succeeded in operating a motive device by means of them. I will tell you in the most general way, the cosmic ray ionizes the air, setting free many charges ions and electrons. These charges are captured in a condenser which is made to discharge through the circuit of the motor. I have hopes of building my motor on a large scale, but circumstances have not been favorable to carrying out my plan.

### New York American November 1st, 1933

#### Device to Harness Cosmic Energy Claimed by Tesla:

"This new power for the driving of the world's machinery will be derived from the energy which operates the universe, the cosmic energy, whose central source for the earth is the sun and which is everywhere present in unlimited quantities."

This is a diagram of Tesla's first radiant energy receiver. It stored static electricity obtained from the air and converted it to a usable form. Tesla's invention is a simple version of T.H. Moray's device. Moray's device used a unique rectifier (RE-valve) to efficiently *capture* the static electricity from the surrounding air. Moray's *oscillator tubes* (magnetron transducers) utilized this high-voltage energy to generate an internal secondary "cold" fusion reaction.



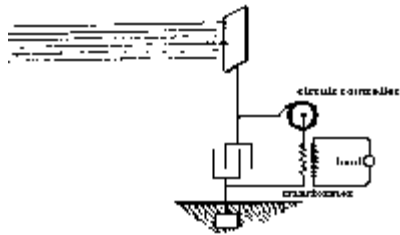
Stick an antenna up in the air, the higher the better, and wire it to one side of a capacitor, the other going to a good earth ground, and the potential difference will then charge the capacitor. Connect across the capacitor some sort of switching device so that it can be discharged at rhythmic intervals, and you have an oscillating electric output. T.H. Moray simply expanded on Tesla's idea to use high-voltage to create ionic oscillation.

Tesla's free-energy concept was patented in 1901 as an "Apparatus for the Utilization of Radiant Energy." The patent refers to "the sun, as well as other sources of radiant energy, like cosmic rays," that the device works at night is explained in terms of the night-time availability of cosmic rays. Tesla also refers to the ground as "a vast reservoir of negative electricity."

Tesla was fascinated by radiant energy and its free-energy possibilities. He called the Crooke's radiometer, a device which has vanes that spin in a vacuum when exposed to radiant energy "a beautiful invention." He believed that it would become possible to harness energy directly by "connecting to the very wheel-work of nature." On his 76th birthday at his yearly ritual press conference, Tesla announced a "cosmic-ray motor" when asked if it was more powerful than the Crooke's radiometer, he answered, "thousands of times more powerful."

In 1901 Nikola Tesla was one the first to identify "radiant energy." Tesla says that the source of this energy is our Sun. He concluded that the Sun emits small particles, each carrying so small of a charge, that they move with great velocity, exceeding that of light. Tesla further states that these particles are the *neutron particles*. Tesla believed that these *neutron particles* were responsible for all radioactive reactions. *Radiant matter* is in tune with these *neutron particles*. Radiant matter is simply a re-transmitter of energy from one state to another.

#### How his radiant energy receiver worked



From the electric Potential that exists between the elevated plate (plus) and the ground (minus), energy builds up in the capacitor, and, after "a suitable time interval," the accumulated energy will "manifest itself in a powerful discharge" that can do work. The capacitor, says Tesla, should be "of considerable electrostatic capacity," and its dielectric made of "the best quality mica, for it has to withstand potentials that could rupture a weaker dielectric."

Tesla gives various options for the switching device. One is a rotary switch that resembles a Tesla circuit controller, another is an electrostatic device consisting of two very light, membranous conductors suspended in a vacuum. These sense the energy build-up in the capacitor, one charging positive, the other negative, and, at a certain charge level, are attracted, touch, and thus fire the capacitor. Tesla also mentions another switching device consisting of a minute air gap or weak dielectric film that breaks down suddenly when a certain potential is reached.

Tesla received two patents for this radiant energy device; U.S. Patent No. 685,957 - Apparatus for the Utilization of Radiant Energy and U.S. Patent No. 685,958 - Method of Utilizing Radiant Energy. Both these patents were filed on March 21, 1901 and granted on November 5, 1901. In these patents he explains:

"The sun, as well as other sources of radiant energy throw off minute particles of matter positively electrified, which, impinging upon the upper plate, communicate continuously an electrical charge to the same. The opposite terminal of the condenser being connected to ground, which may be considered as a vast reservoir of negative electricity, a feeble current flows continuously into the condenser and inasmuch as the particles are ...charged to a very high potential, this charging of the condenser may continue, as I have actually observed, almost indefinitely, even to the point of rupturing the dielectric."

### The Earth's Electrostatic Charge

Tesla's intent was to condense the energy trapped between the earth and its upper atmosphere and to transform it into an electric current. He pictured the sun as an immense ball of electricity, positively charged with a potential of some 200 billion volts. The earth, on the other hand, is charged with negative electricity. The tremendous electrical force between these two bodies constituted, at least in part, what he called cosmic energy. It varied from night to day and from season to season but it is always present.

The positive particles are stopped at the ionosphere and between it and the negative charges in the ground, a distance of 60 miles, there is a large difference of voltage - something on the order of 360,000 volts. With the gases of the atmosphere acting as an insulator between these two opposite stores of electrical charges, the region between the ground and the edge of space traps a great deal of energy. Despite the large size of the planet, it is electrically like a capacitor which keeps positive and negative charges apart by using the air as a non-conducting material as an insulator.

The earth has a charge of 96,500 coulombs. With a potential of 360,000 volts, the earth constitutes a capacitor of .25 farads (farads = coulombs/volts). If the formula for calculating the energy stored in a capacitor ( $E = 1/2CV^2$ ) is applied to the earth, it turns out that the ambient medium contains  $1.6 \times 10^{11}$  joules or 4.5 megawatt-hours of electrical energy. In order to utilize this high-voltage energy you must do two things -- make an energy sink and then devise a way of making the "sink" oscillate.

### "Zero-Point Energy?"

Such a "sink" has to be at a lower energy state than the surrounding medium and, for the energy to continually flow into it, the energy must be continually *pumped* out of it. Additionally, this "sink" must maintain a lower energy state while meeting the power requirements of the load attached to it. Electrical energy, watt-seconds, is a product of volts  $\times$  amps  $\times$  seconds. Because the period of oscillation does not change, either voltage or current has to be the variable in this system's energy equation. Bifilar wound coils are used in the system because a bifilar wound coil maximizes the voltage difference between its turns, the current is then minimized.

A coil in our system, then, will be set into oscillation at its resonant frequency by an external power source. During the "zero-point" portion of its cycle the coil will appear as one plate of a capacitor. As the voltage across the coil increases, the amount of charge it can *siphon* will increase. The energy that is taken into the coil through the small energy window (*zero-point*), call it what you will, appears to be the key to the success of this system. It is at this *zero-point* where energy is condensed into positive and negative components of current. When energy escapes from the "sink" the magnetic field collapses and a strong magnetic quake is created in it's wake. A properly tuned system can *capture* and convert *radiant energy* in such a prescribed arrangement.

### Energy Directly from the Atom

The radiant energy system is a self-oscillating capacitive system. Once it is set into oscillation, very little power is expended in keeping it going. Because it is an electrostatic oscillating system, only a small amount of charge moves through the system per cycle, that is, the coulomb per seconds = amps are low. If the charge is used at a low rate, the energy stored in the system will be turned into heat at a slow rate enabling the oscillations to continue for a long period of time.

Tesla's "COIL FOR ELECTRO MAGNETS," patent #512,340 is a very special coil design because, unlike an ordinary coil made by turning wire on a tube form, this one uses two wires laid next to each other on a form but with the end of the first one connected to the beginning of the second one. In this patent Tesla explains that the double coil will store many times the energy of a conventional coil.[1] Measurements of two coils of the same size and with the same number of turns, one with a single, the other with a bifilar winding, show differences in voltage gain. These bifilar Tesla's coils can be explained solely on the basis of their electrical activity. A bifilar coil is capable of holding more charge than a single wound coil. When operated at resonance, the distributed capacitance of the bifilar coil is able to overcome the counter - electromotive force (e.m.f.) normal to coils, inductive reactance.

Because of the electrical activity, a bifilar coil does not work against itself in the form of a counter - e.m.f., the potential across the coil quickly builds to a high value. The difference between the turns becomes great enough that the energy is practically all potential, at this point, the system becomes an electrostatic oscillator.

Minimal work is done in my radiant energy system due to the absence of wasted displacement currents. As small heat losses occur, oscillations are maintained by surplus charge generated by atomic catalytic reactions, energy is *siphoned* from the kinetic moments of these charges. Very low energy expenditure allows power delivery to an electrical load over an extended time period without an external fuel supply. After an initial input of energy from an outside source, the radiant energy electrical generator will operate as a very efficient device.

By reviewing history it is understandable why some inventions are not commercialized. It is economics, not science, that is the main factor. It will be remembered that alternating current was opposed by powerful financiers in Tesla's time.

Michael Pupin, noted in his autobiography:

"...captains of industry...who were afraid that they would have to scrap some of their direct current apparatus and the plants for manufacturing it, if the alternating current system received any support. A most un-American attitude...but ignorance and false notions prevailed in the early nineties, because the captains of electrical industries paid small attention to highly trained scientists." [2]

### Philadelphia Public Ledger November 2, 1933 Tesla 'Harnesses' Cosmic Energy

Inventor announces discovery to displace fuel in driving machinery. Calls Sun main source. A principle by which power for driving machinery of the world may be developed from the cosmic energy which operates the universe, has been discovered by Nikola Tesla, noted physicist and inventor of scientific devices, he announced today. This principle, which taps a source of power described as "everywhere present in unlimited quantities" and which may be transmitted by wire or wireless from central plants to any part of the globe, will eliminate the need of coal, oil, gas or any other of the common fuels, he said. Dr. Tesla in a statement today at his hotel indicated the time was not far distant when the principle would be ready for practical commercial development. Asked whether the sudden introduction of his principle would upset the present economic system, Dr. Tesla replied, "It is badly upset already." He added that now as never before was the time ripe for the development of new resources. While in its present form, the theory calls for the development of energy in central plants requiring vast machinery. Dr. Tesla said he might be able to work out a plan for its use by individuals. The central source of cosmic energy for the earth is the Sun, Dr. Tesla said, but "night will not interrupt the flow of new power supply."

Clearly Tesla is not talking about an *atomic reactor*. He is directly converting *ionized particles* generated by radiant matter. It is not nuclear energy as we know it today. Radiant Energy is directly converted to electrical power! Tesla believed that the Sun generates highly charged particles and that radiant matter is a re-transmitter of energy, it is this transfer of energy that could be used for practical purposes.

### References

[1] Nikola Tesla, U.S. Patent #512,340, "COIL FOR ELECTRO MAGNETS," he explains that a standard coil of 1000 turns with a potential of 100 volts across it will have a difference of .1 volt between turns. A similar bifilar coil will have a potential of 50 volts between turns. In that the stored energy is a function of the square of the voltages the energy in the bifilar will be  $50^2/.1^2 = 2500/.01 = 250,000$  times greater than the standard coil.

[2] Michael Pupin, From Immigrant to Inventor, Charles Scribner's Sons, N.Y., pages 285-286, 1923.

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