Water Fuel Cell

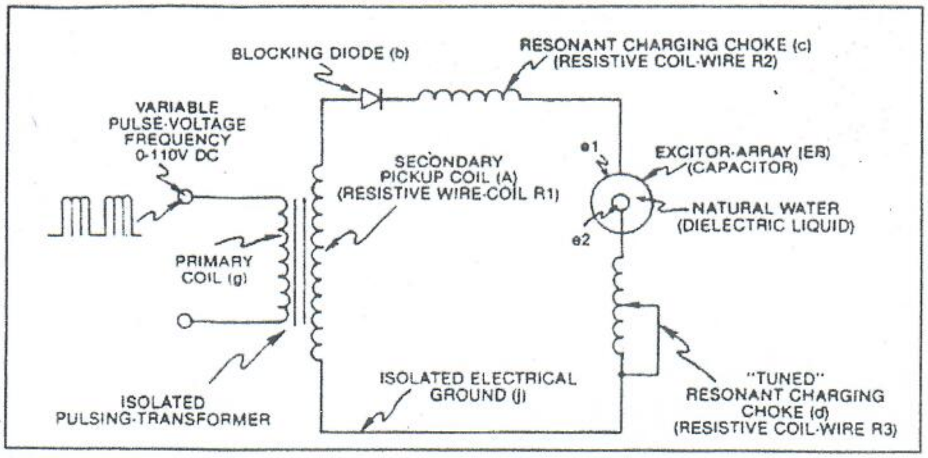

Figure 1-1. Voltage Intensifier Circuit (AA)

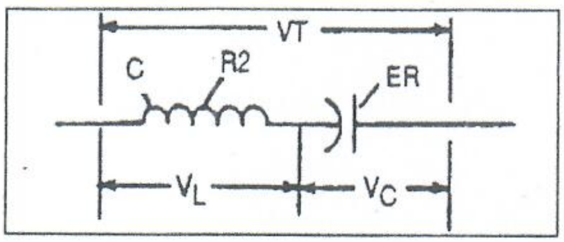

Figure 1-2 LC Circuit Schematic

PULSING TRANSFORMER

The pulsing transformer (a/g) steps up voltage amplitude or voltage potential during pulsing operations. The primary coil is electrically isolated (no electrical connection between primary and secondary coil) to form Voltage Intensifier Circuit (AA). Voltage amplitude or voltage potential is increased when secondary coil (a) is wrapped with more turns of wire. Isolated electrical ground (j) prevents electron flow from input circuit ground.

BLOCKING DIODE

Blocking Diode (b) prevents electrical "shorting" to secondary coil (a) during pulse-off time since the diode "only" conducts electrical energy in the direction of the schematic arrow.

LC CIRCUIT

Resonant Charging Choke (c) in series with Excitor-array (E1/E2) forms an inductor-capacitor circuit (LC) since the Excitor-Array (ER) acts or performs as a capacitor during pulsing operations.

The **Dielectric Properties** (insulator to the flow of amps) of natural water (dielectric constant being 78.54 @ 25c) between the electrical plates E1/E2) forms the capacitor (ER). Water now becomes part of the Voltage Intensifier Circuit in the form of "resistance" between electrical ground and pulse-frequency positive-potential.... helping to prevent electron flow within the pulsing circuit (AA) of Figure 1-1.

The **Inductor (c)** takes-on or becomes a **Modulator Inductor** which steps up an oscillation of a given charging frequency with the effective capacitance of a pulse-forming network in order to charge the voltage zones (E1/E2) to a higher potential beyond applied voltage input.

The Inductance (c) and Capacitance (ER) properties of the LC circuit is therefore "**tuned**" to resonance at a certain frequency. The **Resonant Frequency** can be raised or lowered by changing the inductance and/or the capacitance values. The established resonant frequency is, of course, independent of voltage amplitude, as illustrated in Figure 9BB as to Figure 16A.

The value of the Inductor (c), the value of the capacitor (ER), and the pulse-frequency of the voltage being applied across the LC circuit determines the impedance of the LC circuit.

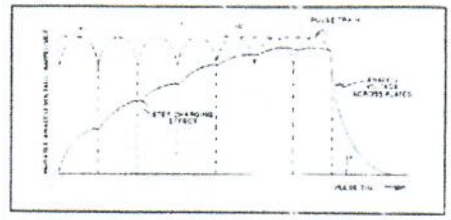

Figure 9BB: Applied Voltage to Plates

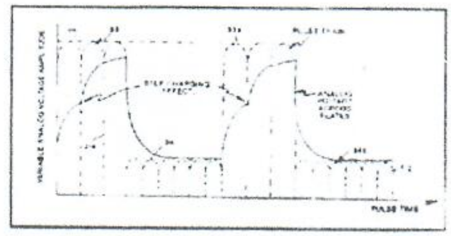

Figure 16A: Applied Voltage to Resonant Cavity

The impedance of an inductor and a capacitor in series, Z_{series} is given by

$$Z_{series} = (X_C - X_L)$$

Where

$$X_C = \frac{1}{2\pi FC} \qquad X_L = 2\pi FL$$

The **Resonant Frequency (F)** of an LC circuit in series is given by

$$F = \frac{1}{2\pi \sqrt{LC}}$$

Ohm's Law for LC circuit in series is given by

$$V_T = IZ$$

LC VOLTAGE

The voltage across the inductor (c) or capacitor (ER) is greater than the applied voltage (h). At frequency close to resonance, the voltage across the individual components is higher than the applied voltage (h), and, at resonant frequency, the voltage Vt across both the inductor and the capacitor are