Stanley MEYER Resonant Electrolysis Cell System:

(page created at November 2007 Update)

1. **Introduction** by MDG nov07: Stanley MEYER is the most famous inventor in the 'Super-efficient Electrolysis' field, and many took inspiration from his work. His original Electrolysis Concept was able to produce many times as much hydrogen gas as permits the Faraday's Law of electrolysis, and the Law of Conservation of Energy, then he brought it up to a still un-understood high level he called 'Thermal Explosive Energy'. We can say that he was at least 50 years in advance of his time ... The evidence, then, is that his concept of electrolysis is tapping in another source of energy, not 'recognized' yet in the classical physics, that must be in another dimension, outside our three dimensions, and it must be a non thermic form of energy, because Stan Cell is not producing heat while electrolyzing.

There is still not a complete concensus of the Experts in Zero Point Energy, Peter Lindermann, John Bedini, Thomas Bearden, Moray King, Allan Sterling and many others, on HOW Stanley Meyer was catching this ZPE. May be he was using Radiant Energy High Voltage Pulses (Back Electro Motive Force) to charge his Capacitor/Cell (two Stainless Steel pipes isolated by a fine layer of pure water as strong dielectric) almost without current, until the breakdown level of the water layer was reached, at which moment the accumulated voltage in the capacitor would be converted to amperes that would split the water molecules, realising the hydrogen and oxygen, and the power supply sensor would cut the input pulses, to stop any current flowing from the source.
After all the electricity stored in this capacitor/cell would be used, the water would take place again between the two ss tubes, reforming the insulating layer, the power supply sensor would send again power for a new cycle of charging the capacitor/cell to its dielectric breakdown level ... Electrolysis would be done with 'Pure Voltage Potential' and almost no Amperes (current). See below the Peter Lindermann explanation.

Radiant Pulses can be created by sending unidirectional (that's may be why Stan had a rectifying diode in his circuit) short pulses in a coil/choke, they are called also Back EMF, and are of a many times higher voltage level compared to the original pulses sent. Tesla, Gray, Moray, Bedini, Bearden and many others are using this technical trick to distrub the Vacuum Energy Field and organize and collect the ZPE to do 'free'

electric work in their apparatus. Perhaps Stan Meyer did the same, and this web page is a collection of information I found on the fantastic internet, that should make it as clear as possible to understand.

About the successful suppressed replications done by Dave Lawton and Mr. Ravi from India, the calculations of their efficiency give around 200-600% (400 for Lawton, 600 for Ravi, see 'replicas' page) of the theoretical Faraday maximum, while Stan Meyer was at 1,700%, 17 times the Farady's maximum (Meyer interview, Channel 4, UK, 17 dec. 1995). Perhaps we need to step up the original pulses to an higher voltage, a few thousands volts at least, and then only we send this high voltage pulses in a coil/choke or Tesla/Bedini bifilar coil (1 to 1 ratio, see below why) to obtain consequent high back EMF Radiant Energy pulses to charge the capacitor/cell to the voltage breakdown level of the water layer between the electrode pipes (in the tens of thousands volts, Stan stipulated using 20.000 Volts in his 'memo1' (see below)).

Or may be Stan Meyer is not even using back EMF Radiant Spikes for its super-efficient electrolysis, but just direct unidirectional high voltage pulses to charge the capacitor/cell up to its breakdown limit, through the help of the chokes ; quote: 'the resonant chokes being specifically to damp the voltage spikes that could prematurally set this thing off' from Peter Lindermann video, see below.
In this case it could be the very short pulses that would trigger a Radiant Effect in the capacitor/cell itself, increasing the value of the original pulses, like Bedini explained about his Simplified School Girl (SSG) circuit: there is a Radiant Effect in the coil by the reaction to the pulse sent, this creates a Back EMF, when the electromagnetic field collapses abruptly in the coil, AND there is also a Radiant Effect when the Back EMF pulse hits the battery electrodes, and this one is also present when we use a capacitor in place of a battery, like in his Window Coil Motor.

Another possibility is that Stan Meyer didn't revealed in the patent that he actually did connect his 2 chokes in a bifilar configuration (Tesla/Bedini coil), and then that's where he was creating the Radiant Energy Spikes ... see article below.

Actually Stanley Meyer explained is super-efficient electrolysis with the electron movement and exchange between water molecules/atoms themselves, induced by the high voltage field accumulated between the electrodes, and bringing the water molecules to split (see below his 'memo1'), contrary to standard electrolysis where that exchange of electrons is effectued between the water molecules and electrodes. That was not accepted at the time he lived, but it has been recently scientificaly confirmed, in 2005, by NAOHIRO SHIMUZU et al., that the use of ultra-short pules can create a 'new form' of electrolysis, and with a better efficiency, but still inferior to the Faraday limits.
Quote: It was found that by using an ultra-short pulse with the width of 300 ns, electrolysis takes place with a mechanism dominated by electron transfer, which is different from the conventional diffusion limiting process in DC electrolysis. End quote. (document 'A novel method of hydrogen generation by water electrolysis using.pdf' available at hydroxy_more.html)
Could this water molecules broken through high voltage field attraction, pure Potential Field that affect the electrons, be in the exact middle of the field, and liberate their gases just there, at equal distance of the electrodes, because this could

explain the 'gas bubbles created in the middle' by George Wiseman electrolyser, from eagle-research.com, and other experimenters on the oupower.com builders forum ... and also that could be the most efficient way to create 'monatomic' hydrogen and oxygen, having much powerful explosion power compared to standard hydrogen and oxygen molecules.
Personaly investigating the ORMUS (with succesful trials), see other part of this website, I think that somewhere this atomic Cooper Pair, Bose Einstein Condensate and other Superconductors could have also a role played in this superefficient electrolysises, or at least in the Meyer's Nuclear Thermal Explosive Water Energy ...

Which one is the right explanation ? Off course it may be a 'mix' of different effects, but for sure it induces the existence of new phenomenons that are not yet described in the classical physics books. But it's real, and it's just next to full systematic reproductability. We can see that only off the shelf or low cost components are used, and then it will be quite easy and cheap to manufacture.

Considering the large choice in sytems and technologies that could provide us with 'free power' for all, Stanley Meyer's process seems to be the most 'open source' and near to completion of all, to furnish a considerable power with a wide range of uses, technically simple and affordable. The Hydroxy gas that comes out from water electrolysis is well known for its high power, and is already commercialized as welding gas, cooking gas, domestic heating gas, industrial burning gas, vehicle fuel saver gas and more. Off course the generalization of Stan Meyer's process with a very high efficiency, many folds the one available now from standard Faraday electrolysis, will boost the development of the use of Hydroxy (HOH) in our daily life.

Stan Meyer's secret looks finally accessible and simple to understand and reproduce. That would be the BEST SOLUTION for free power NOW, at very low cost to manufacture, with off the shelf material, AND FREE OF PATENT RIGHTS, being a technology in the Public Domain now, after expiration of Stans' patents in 2007!

Please take all the necessary precautions if you intend to research in this high voltage fields, because it can be lethal.

-- <u>Return to the top</u>

2. History of Stanley Meyer

 <u>http://www.rexresearch.com/meyerhy/meyerhy.htm</u>

Reprinted from OSEN.org
<u>http://www.osen.org/Technologies/Hydrogen/StanMeyerReport/tabid/373/Default.asp</u>
<u>x</u>

Article from **Electronics World & Wireless World** (January 1991)

Eye-witness accounts suggest that US inventor Stanley Meyer has developed an electric cell which will split ordinary tap water into hydrogen and oxygen with far less energy than that required by a normal electrolytic cell.

In a **demonstration made before Professor Michael Laughton, Dean of Engineering at Queen Mary College, London, Admiral Sir Anthony Griffin, a former controller of the British Navy, and Dr Keith Hindley, a UK research chemist**. Meyer's cell, developed at the inventor's home in Grove City, Ohio, produced far more hydrogen/oxygen mixture than could have been expected by simple electrolysis.

Where normal water electrolysis requires the passage of current measured in amps, Meyer's cell achieves the same effect in milliamps. Furthermore ordinary tap water requires the addition of an electrolyte such as sulphuric acid to aid current conduction; **Meyer's cell functions at greatest efficiency with pure water**.

According to the witnesses, the most startling aspect of the Meyer cell was that **it remained cold, even after hours of gas production**. Meyer's experiments, which he seems to be able to perform to order, have earned him a series of US patents granted under Section 101. The granting of a patent under this section is **dependent on a successful demonstration of the invention to a Patent Review Board**.

Meyer's cell seems to have many of the attributes of an electrolytic cell except that it functions at high voltage, low current rather than the other way around. **Construction is unremarkable**. The electrodes - referred to as "excitors" by Meyer- are made from parallel plates of stainless steel formed in **either flat or concentric topography. Gas production seems to vary as the inverse of the distance between them**; the patents suggest a **spacing of 1.5mm** produces satisfactory results.

The **real differences occur in the power supply** to the cell. Meyer uses an external inductance which appears to resonate with the capacitance of the cell --- **pure water apparently possesses a dielectric constant of about 5** --- to produce a parallel resonant circuit. This is **excited by a high power pulse generator** which, together with the cell capacitance and **a rectifier diode**, forms a charge pump circuit. High frequency pulses build a rising staircase DC **potential across the electrodes of the cell until a point is reached where the water breaks down and a momentary high current flows. A current measuring circuit in the supply detects this breakdown and removes the pulse drive for a few cycles allowing the water to "recover"** .

(MDG nov07: that's a very CLEAR explanation given by Stan himself on the HOW IT WORKS ! So it was known in 1991 already ...)

Research chemist Keith Hindley offers this description of a Meyer cell demonstration: "After a day of presentations, the Griffin committee witnessed a number of important demonstration of the WFC" (water fuel cell as named by the inventor).

A witness team of independent UK scientifc observers testified that US inventor, Stanley Meyer, successfully decomposed ordinary tap water into constituent elements through a combination of **high, pulsed voltage using an average current measured only in miliamps**. Reported gas evolution was enough to sustain a hydrogen / oxygen flame which instantly melted steel.

In contrast with normal high current electrolysis, the **witnesses report the lack of any heating** within the cell. Meyer declines to release details which would allow scientists to duplicate and evaluate his "waterfuel cell". However, he has supplied enough detail to the US Patents Office to persuade them that he can substantiate his 'power-from-water' claims.

One demonstration cell was fitted with two parallel plate "excitors". Using tap water to fill the cell, the plates generated gas at very low current levels- no greater than a tenth of an amp on the ammeter, and claimed to be milliamps by Meyer - and this gas **production increased steadily as the plates were moved closer** together and decreased as they were separated. The **DC voltage appeared to be pulsed at tens of thousands of volts**.

A second cell carried nine stainless steel double tube cell units and generated much more gas. A sequence of photographs was taken showing **gas production at milliamp levels**. When the **voltage was turned** up to its peak value, the gas then poured off at a very impressive level.

"We did notice that the water at the top of the cell slowly became discolored with a pale cream and dark brown precipitate, almost certainly the effects of the chlorine in the heavily chlorinated tap water on the stainless steel tubes used as "excitors". He was demonstrating hydrogen **gas production at milliamp and kilovolt levels**. … Meyer's cell functions at greatest efficiency with pure water.

"The most remarkable observation is that the WFC and all its metal pipework **remained quite cold to the touch, even after more than twenty minutes** of operation. The **splitting mechanism clearly evolves little heat in sharp contrast to electrolysis** where the electrolyte warms up quickly."

"The results appear to suggest efficient and controllable gas production that responds rapidly to demand and yet is safe in operation. We clearly saw how **increasing and decreasing the voltage is used to control gas production**. We saw how gas generation ceased and then began again instantly as the voltage driving circuit was switched off and then on again."

"After hours of discussion between ourselves, we concluded that Stan Meyer did appear to have **discovered an entirely new method for splitting water** which

showed few of the characteristics of classical electrolysis. Confirmation that his devices actually do work come from his collection of granted US patents on various parts of the WFC system. Since they were **granted under Section 101 by the US Patent Office, the hardware involved in the patents has been examined experimentally by US Patent Office experts and their seconded experts and all the claims have been established."**

"The basic WFC was **subjected to three years of testing. This raises the granted patents to the level of independent, critical, scientific and engineering confirmation** that the devices actually perform as claimed."

The practical demonstration of the Meyer cell appears substantially more convincing than the para-scientific jargon which has been used to explain it. The inventor himself talks about a distortion and polarization of the water molecule resulting in the H:OH bonding tearing itself apart under the electrostatic potential gradient, of a resonance within the molecule which amplifies the effect.

Apart from the copious hydrogen/oxygen gas evolution and the minimal temperature rise within the cell, witnesses also report **that water within the cell disappears rapidly**, presumably into its component parts and as an aerosol from the myriad of tiny bubbles breaking the surface of the cell.
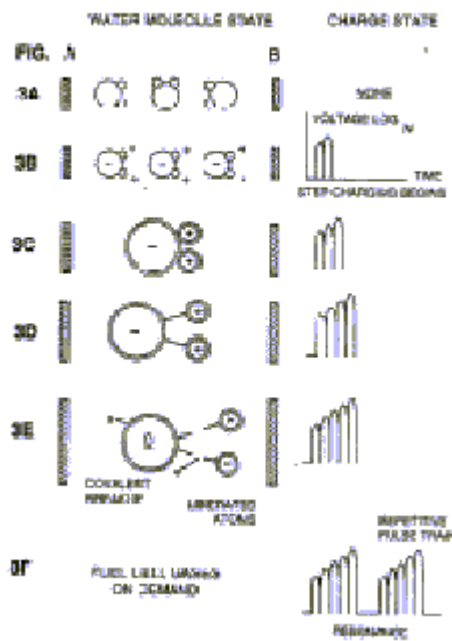
Meyer claims to have run a converted VW on hydrogen/oxygen mixture **for the last four years** using a chain of six cylindrical cells. He also claims that photon stimulation of the reactor space by optical fibre piped laser light increases gas production.

The inventor is a protegee' of the Advanced Energy Institute.

To get the article in pdf format, get 'Meyerless+World.pdf' (42 Ko) available at http://my.opera.com/h2earth/blog/cybrarium

--- Return to the top

USP # 4,936,961- **Method for the Production of a Fuel Gas** - Stanley Meyer FIGS. 3A through 3F are illustrations depicting the **theoretical bases for the phenomena encountered** during operation of the invention herein.
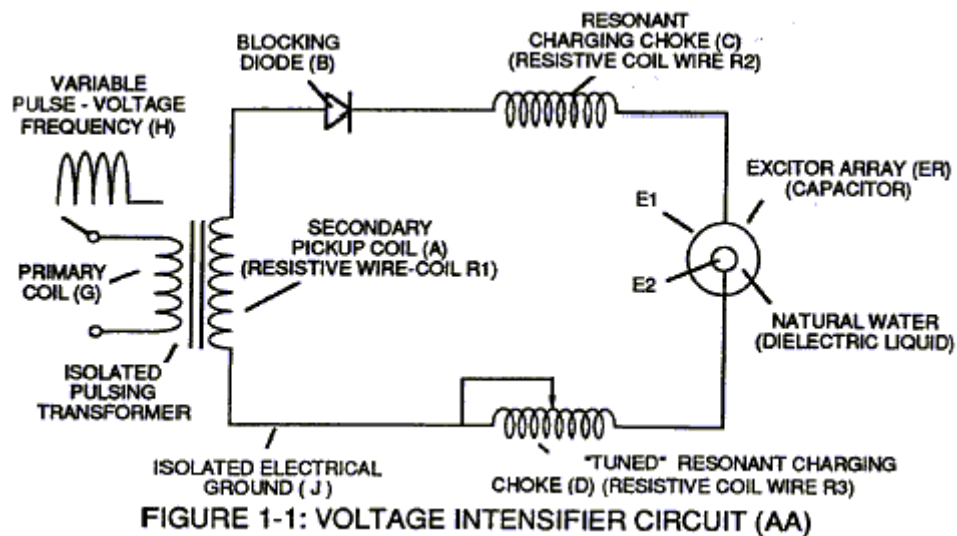
WATER MOLECULE STATE   CHARGE STATE

FIG. A   B

3A

3B

3C

3D

3E

COVALENT
BOND UP

LIBERATED
ATOMS

FUEL CELL WORKS
ON DEMAND

Circuit useful in the process:

FIGURE 1-1: VOLTAGE INTENSIFIER CIRCUIT (AA)

FIG. 2 shows a perspective of a "water capacitor" element used in the fuel cell circuit.
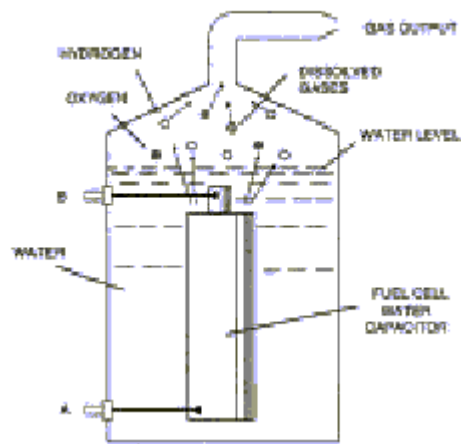
U.S. Patent   Jan. 26, 1990   Sheet 1 of 3   **4,936,961**

… The hydrogen and oxygen atomic gases, and other gas components formerly entrapped as dissolved gases in water, are **released when the resonant energy exceeds the covalent bonding force of the water molecule.**

A preferred construction material for the **capacitor plates is stainless steel T-304** which is non-chemical reactive with water, hydrogen, or oxygen.

Patents Granted : USP # 4,936,<u>961</u> - **Method for the Production of a Fuel Gas** / USP # 4,826,581 - **Controlled Production of Thermal Energy from Gases** / USP # 4,798,661 - **Gas generator voltage control circuit** / USP # 4,613,779 ~ **Electrical Pulse Generator** / USP # 4,613,304 ~ **Gas Electrical H Generator** / USP # 4,465,455 ~ **Start-up/Shut-down for H Gas Burner** / USP # 4,421,474 ~ **H Gas Burner** / USP # 4,389,981 ~ **H Gas Injector System for IC Engine** / USP # 4,275,950 ~ **Light-Guide Lense** / USP # 3,970,070 ~ **Solar Heating System** / USP # 4,265,224 ~ **Multi-Stage Solar Storage System** / USP # 3,970,070 - **Solar heating system** .

The energy contained in a gallon of water exceeds 2.5 million barrels of oil when equated in terms of atomic energy.
Water, of course, is free, abundant, energy recyclable.

Eighteen microliters of a water droplet per injection cycle is all that is required to run the experimental dune buggy at 65 m.p.h. down the road.
To run a truck, for example, it would take only 148 microliters of a water droplet to equal the on-road performance of the dune buggy, Meyer said.

Normally, gasoline has 0.5 pounds of hydrogen in it; whereas water has 1.7 pounds of hydrogen-or 2.5 times that of gasoline. **Running a car under the Water Fuel Cell method, you would go 2.5 times farther than on gasoline.**

The Water Fuel injectors that replace the conventional spark plugs in an internal combustion engine form the resonant cavity which allows water to be converted to thermal explosive energy. This technology allows the car to run both safely and under control.

… "When you ignite gases from water, the by-product is a de-energized water mist which goes out the exhaust," Meyer explained. "It's an open energy system. The water mist is then re-energized by absorbing photon energy from the sun and then returning to the earth's water supply in the form of rain for energy re-use…

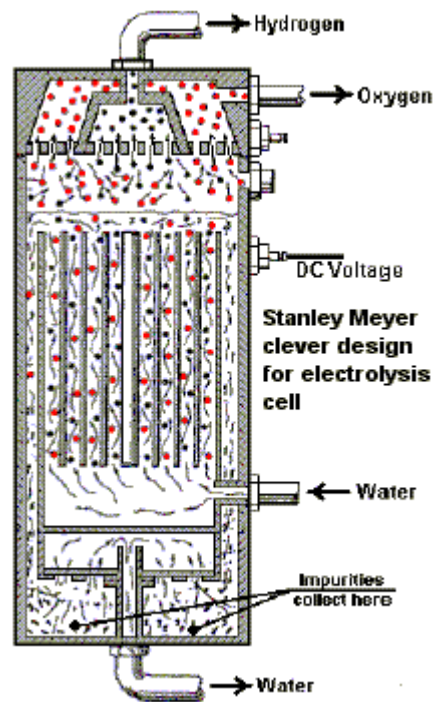--

To get the best, more complet and latest info to replicate Stan Meyer Cell, visit the page of H2EARTH/David Wenbert, on this website, at wf_meyer_h2earth.html

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Stan Meyer Cell Design, download file named 'D16.pdf' at http://www.panaceauniversity.org/D16.pdf

One of Stan Meyer's many different cells designs is shown here:

You will note that he uses a DC voltage on the wall of the cell to move the dissociated hydrogen atoms outwards and the oxygen atoms inwards, to produce separate gas exits from the cell.

One of his pipe electrode arrangements is shown here, and while it is taken directly from one of his patents, it should be understood that the pipe specers shown in red are actually very narow as the spacing between the pipes is very important for gas production and is usually set at 1.5 mm:
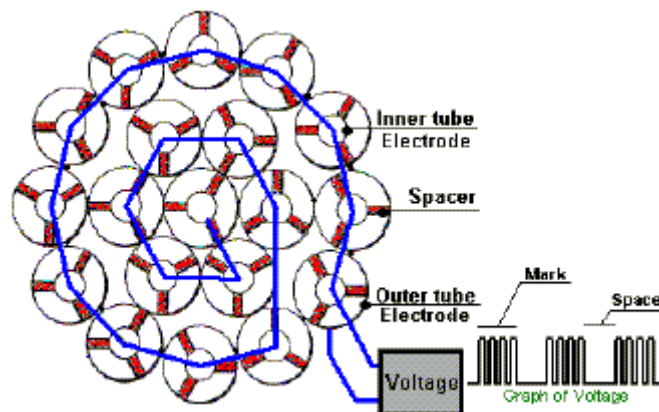
It should be understood that while Stan's system of splitting water is very high efficiency indeed, it is not easy to maintain it's tuning at the optimum level. The resonance of the cell is very sharp indeed (MDG nov07: I think it is the famous 'sweet spot' on the Bedini and other Radiant systems), and can generally only be found by careful monitoring of the current while adjusting the pulse frequency very, very slowly. The diagram shown here indicates how narrow the resonance 'notch' is.
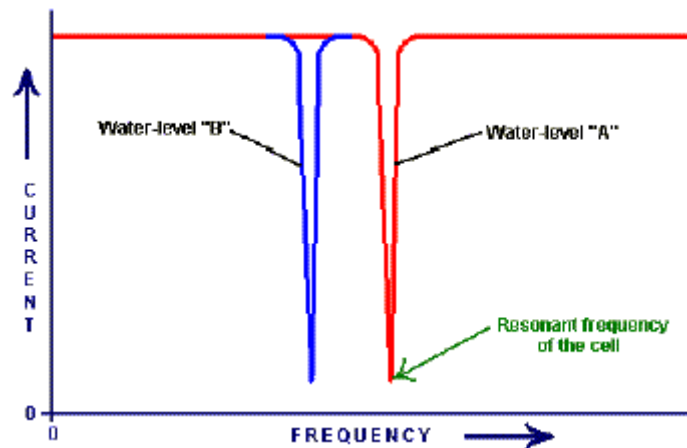
Even at frequencies very close to the resonant frequency, there will be no indication whatsoever that the frequency has almost been reached. When the correct tuning point has been found (at water level A), the water-splitting accelerates to a high level, and unless the water supply is being pumped through the cell as Stan shows in his patent drawings, then the water level starts to drop. Unfortunately, as the water level drops, say to water level B, the resonant frequency of the cell alters and the pulse train is then at the wrong frequency and the process stops to perform correctly. To maintain maximum low-current gas production, either the cell conditions have to be held constant to a high degree of accuracy, or sophisticated electronic control is needed to keep re-adjusting the pulse frequency to the exact resonant frequency, faster than the cell charachteristics can change.

This is probably the reason why Stanley Meyer moved away from this type of cell in favour of direct water injection into his car engine, creating the combustion conditions inside each cylinder just before ignition. The injection system has the enormous advantage of not needing to handle gases of any type but just move and manipulate ordinary water. Stan died suddenly just after perfecting and demonstrating his water injection system and before it went into production - an amazingly convenient occurence for the oil industries. As far as I am aware, nobody has managed to replicate Stan's injection system, in spite of there being patent information on it.

Henry Puharich aslo used a pulsed signel to split water molecules in an efficient manner. His technique is rather different in that he starts with a modulated audio sine-wave signal and uses half-wave rectification to cut off the negative voltage components. The result is a pulsed DC signal which has a whole range of different amplitudes...

-- [Return to the top](#)

3. MEMOS from Stanley A. MEYER

In this memos written by Stanley Meyer himself, resuming his patents and processes,

HYDROGEN FRACTURING PROCESS you will clearly understand that he was using Zero Point Energy to split the water; he called it like others, "Pure Voltage Potential", so I put a html version of this memos in the ZPE part of this website, in the index page, at MEYER, Stanley ...

English versions, in pdf files:
Memo 1 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section1.pdf
(see resume below) Memo 420 - Hydrogen Fracturing Process, 01/25/90 ... using Water as Fuel - Operational Parameters - Voltage Dynamic

Memo 2 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section2.pdf
Memo 421 - Quenching Circuit Technology, 01/25/90 ; Rendering Hydrogen Safer Than Natural Gas - Spark-Ignition Tube - Gas Injection Process - Flame Temperature Adjustment - Quenching Circuit - Quenching Nozzle - Catalytic Block Assembly - Internal Combustion Engine -

Memo 3 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section3.pdf
Memo 422DA- WFC Hydrogen Gas Management System, 04/15/91 ; Water Fuel-Gas Injection System - Laser Accelerator Assembly - Acceleration Control Circuit - Analog Voltage generator - Voltage Amplitude Control Circuit - Variable Pulse Frequency Generator - Voltage Intensifier Circuit - Electrical Polarization process - - Resonant Action (extract): Subjecting and exposing water molecule (85) to even higher voltage levels (xxx Vn) (up to and beyond several thousand volts) causes water bath (91) of Figure (3-30) as to Figure (3-25) to go into a state of ionization by allowing opposite polarity forces (TT') and (UU') to eject one or more electrons (92a xxx 92n) from water bath atoms (93). Intensified electrical attraction force (TT') causes dislodged negative charged electrons (92) to migrate to positive voltage-plate (El) while electrical attraction force (UU') causes positive charged atom nucleus (94) to travel toward negative voltage-plate (E2). Applied electrical attraction force (TT') and (UU') always being of equal voltage intensity but opposite in electrical polarity as voltage amplitude (65) is attenuated.

Memo 4 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section4.pdf
Memo 423DA - Water Fuel Injection System, 07/03/91 ;(with pictures of the engine on the water buggy)

Memo 5 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section5.pdf
Memo 424 - Atomic Energy Balance of Water, 11/14/91 - Using Water as Fuel

(MDG nov07: Be sure Meyer was using ZPE !

FIGURE 5-1: HYDROGEN ENERGY BALANCE
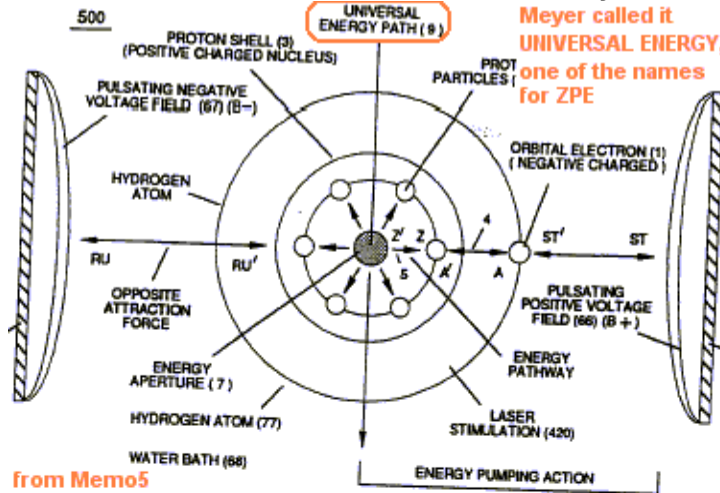
Meyer called it UNIVERSAL ENERGY, one of the names for ZPE

from Memo5

FIGURE 5-6: OPEN ENDED ENERGY SYSTEM

FIGURE 5-10: ENERGY APERTURE OF THE ATOM
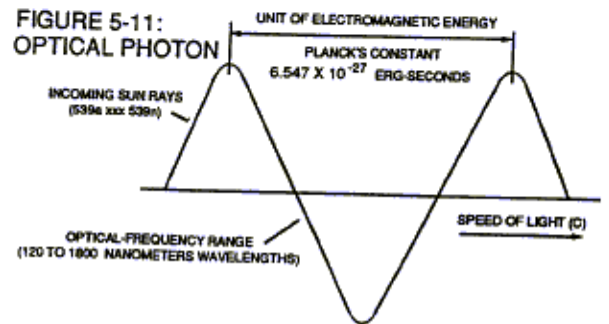
FIGURE 5-11: OPTICAL PHOTON

Stanley MEYER was well aware of the Zero-Point Energy, he called Universal Energy, and finding way(s) to harvest it in his many apparatus, he was a genius...

FIGURE 6-3: DYNAMIC VOLTAGE POTENTIAL

from Memo6

)

Memo 6 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section6.pdf
Memo 425 - Water Fuel Injector: Taper Resonant Cavity, 08/13/92

Memo 7 original:

Memo 426 - VIC Matrix Circuit, 07/07/93 ; Instant Explosion of Water

620 FIGURE 7-1: VIC IMPEDANCE NETWORK

from MEYER's Memo7
see the coils polarities

FIGURE 7-2: LC CIRCUIT

760 FIGURE 7-15: THERMAL EXPLOSIVE-ENERGY OF WATER

from Memo7
DIELECTRIC values
of WATER used

Memo 8 original:
Memo 427 - Voltage Wave-Guide Propagating, 08/10/93 ; "Resonant Action" By Voltage Tickling of State Space

FIGURE 8-10: VIC VOLTAGE SYNC-PULSE CIRCUIT

from MEYER's Memo8 — *Coils orientation*

840
POSITIVE UNIPOLAR VOLTAGE PULSE TRAIN (583a xxx 583n)

COIL ORIENTATION

VOLTAGE SYNC-PULSE GATED FREQUENCY (583 / 602a XXX 583 / 602n)

BLOCKING DIODE

RESONANT CHARGING CHOKE (56) (Z2)

VOLTAGE PULSE BURST WAVE (619)

PROGRAMMABLE VARIABLE GATED PULSE - VOLTAGE FREQUENCY (49A XXX 49N)

SECONDARY PICKUP COIL (52) (R1) DUAL BIFILAR COILS (616A/616B)

BLOCKING DIODE (618)

AMP INHIBITOR COIL (617)

RESONANT CAVITY VOLTAGE WAVE-GUIDE (730)

PRIMARY COIL (26)

CT

66 / E9

67 / E10

622

INDUCTION CORE (619)

860

0V

NATURAL WATER DIELECTRIC LIQUID RESISTANCE (Re) (ELECTRICAL GOUND) (621)

ISOLATED PULSING TRANSFORMER

NEGATIVE UNIPOLAR VOLTAGE PULSE TRAIN (602a xxx 602n)

"TUNED" RESONANT CHARGING CHOKE (62)(Z3)

**FIGURE 8-11: ROTARY (VIC) PULSE VOLTAGE FREQUENCY GENERATOR**

850

RESONANT CHARGING CHOKE (56)

ISOLATION DIODE

BLOCKING DIODE

POSITIVE CROSSOVER UNIPOLAR PULSE-TRAIN (607 a XXX 607n)

SECONDARY WINDINGS (52A) (R1)

616

RESONANT CHARGING CHOKE (62)

RESONANT CAVITY VOLTAGE WAVE-GUIDE (730)

66 / E9

67 / E10

from MEYER's Memo 8

AIR GAP

FIELD ROTATION

COIL ORIENTATION

PRIMARY WINDING

VARIABLE VOLTAGE INPUT (0V TO 12VDC)

0V

(A) UNIPOLAR CROSSOVER VOLTAGE PULSE-TRAIN

Trifilar / Alternator configuration

POSITIVE CROSSOVER UNIPOLAR PULSE-TRAIN (607 a XXX 607n)

ISOLATION DIODE

RESONANT CHARGING CHOKE (56)

BLOCKING DIODE

CROSSOVER VOLTAGE SYNC PULSE (+607 / - 608a xxx +607 / - 608n)

BLOCKING DIODE (618)

CT

SECONDARY WINDINGS (52A) (R1) DUAL BIFILAR COILS (616A / 616B)

RESONANT CAVITY VOLTAGE WAVE-GUIDE (730)

860

AMP INHIBITING COIL (617)

RESONANT CHARGING CHOKE (62)

66 / E9

67 / E10

INDUCTION CORE (619)

0V

WATER BATH (B5) (621) (ELECTRICAL GROUND)

COIL ORIENTATION

AIR GAP

CT

CT

FIELD ROTATION

0V

NEGATIVE CROSSOVER UNIPOLAR PULSE-TRAIN (608 a XXX 608n)

VARIABLE VOLTAGE INPUT (0V TO 12VDC)

PRIMARY WINDING

0V

(B) CROSSOVER VOLTAGE BURST SYNC-PULSE.

Memo 9 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section9.pdf
Memo 428 - Reclaiming Our Air ... For Healthy Living 06/18/94

Memo 10 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section10.pdf
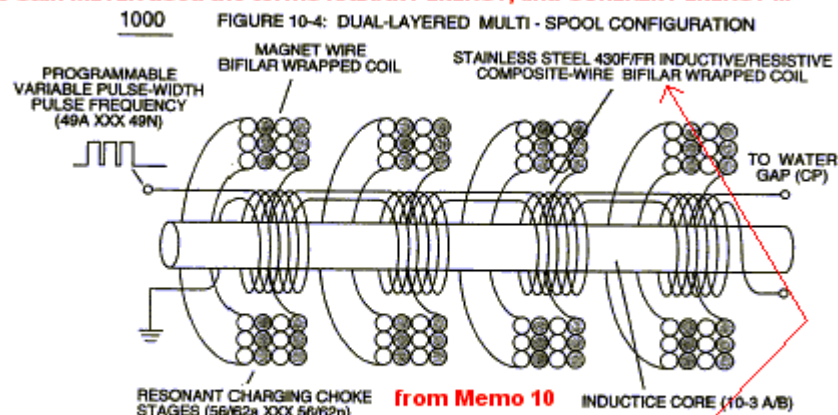Memo 429 - Optical Thermal Lens: A Miniature Controllable Sun, 11/03/95 - Propagating Electrical Stress - Voltage to Amp Differential Ratio - Optical Thermal Lens - Quartz Tube Configuration & Operational Parameters - A Technique Called "Easer"
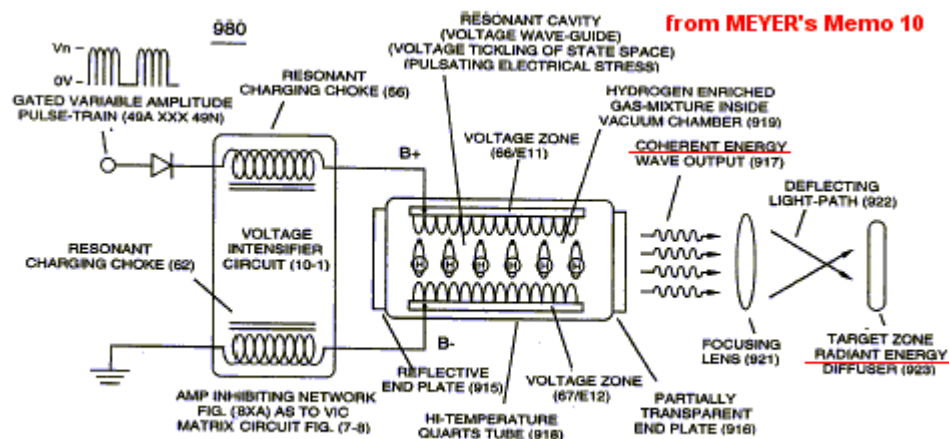
Memo 11 original:
http://users.skynet.be/fa272699/Energie/Meyer/memos/section11.pdf
Memo 430 - WFC Steam Resonator, 05/18/96 ; Particle Oscillation as a Energy Generator - Voltage Flexing Process - VIC Switchover Circuit - Electrical Crossover Switching Circuit

FIGURE 11-5: Particle Oscillation As An Energy Generator
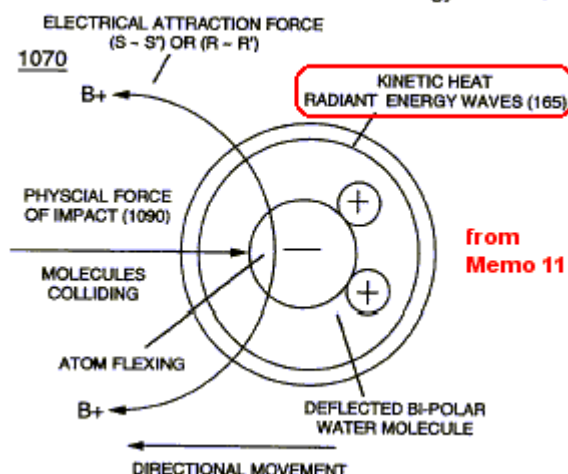
Extracts from Memo 1, about the 'Pure Voltage Potential':

... The Hydrogen Fracturing Process is systematically activated and performed in the following way:

- **Method**: Using **"Voltage Potential"** to stimulate the water molecule to produce atomic energy on demand.

Pulsing Transfonner : The pulsing transformer (A/G) **steps up the voltage amplitude or voltage potential** during pulsing operations. The primary coil is electrically isolated (**no electrical connection between primary and secondary coil**(MDG nov07: same in ZPE circuits)) to form Voltage Intensifier Circuit (AA) Figure (1-1). 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 (El/E2)** forms an **inductor-capacitor circuit** (LC) since the Excitor-Array (ER) acts or **performs as an capacitor during pulsing operations**, as illustrated in Figure (1-2) as to Figure (1-1).

The **Dielectric Properties (insulator to the flow of amps) of natural water (dielectric constant being 78.54 @ 25c) between the electrical plates (El/E2) forms the capacitor (ER)**. Water now becomes part of the Voltage Intensifier Circuit **in the form of "resistance"** between electrical ground and pulsefrequency 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 an higher potential <u>beyond applied voltage input</u>**.

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 (1-3) as to Figure (1-4). 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
(see formulas on the original document)

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 c:apacitor are <u>theoretically infinite</u>**. However, physical constraints of components and circuit interaction prevents the voltage from reaching infinity.
(see formulas on the original document)

During resonant interaction, the incoming unipolar pulse-train (H) of Figure (1-1) as to Figure (1-5) produces a step-charging voltage-effect across Excitor-Array (ER), as illustrated in Figure(1-3) and Figure (1-4). Voltage intensity increases from zero 'ground-state' to an high positive voltage potential in an progressive function. Once the voltage-pulse is terminated or switched-off, voltage potential returns to "ground-state" or near ground-state to start the voltage deflection process over again.

Voltage intensity or level across Excitor-Array (ER) <u>can exceed 20,000 volts</u> due to circuit (AA) interaction and is directly related to pulse-train (H) variable amplitude input.

RLC Circuit : Inductor (C) is made of or composed of resistive wire (R2) to further restrict D.C. current flow beyond inductance reaction (XL), and, is given by (Eq 8)

Dual-inline RLC Network : Variable inductor-coil (D), similar to inductor (C) connected to opposite polarity voltage zone (E2) further inhibits electron movement or deflection within the Voltage Intensifier Circuit. Movable wiper arm fine "tunes" "Resonant Action" during pulsing operations. Inductor (D) in relationship to inductor (C) electrically balances the opposite voltage electrical potential across voltage zones (EI/E2).

Potential Energy : <u>Voltage is "electrical pressure" or "electrical force"</u> within an electrical circuit and is **known as voltage potential**. The higher the voltage potential, the greater "electrical attraction force" or Electrical repelling force" is applied to the electrical circuit. Voltage potential is **an "unaltered" or "unchanged" energy-state when "electron movement" or "electron deflection" is prevented or restricted** within the electrical circuit.

Voltage Performs Work : Unlike voltage charges within an electrical circuit sets up an "electrical attraction force" ; whereas, like electrical charges within the same

electrical circuit encourages an "repelling action". In both cases, electrical charge deflection or movement is directly related to applied voltage. These electrical "forces" are **known as "voltage fields"** and can exhibit either a positive or negative electrical charge.
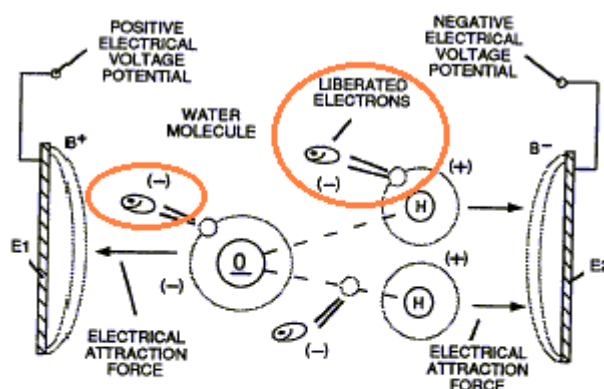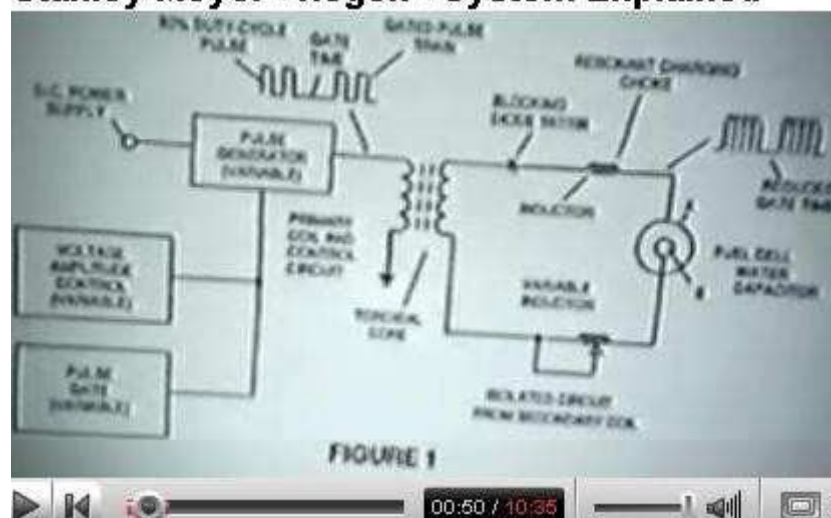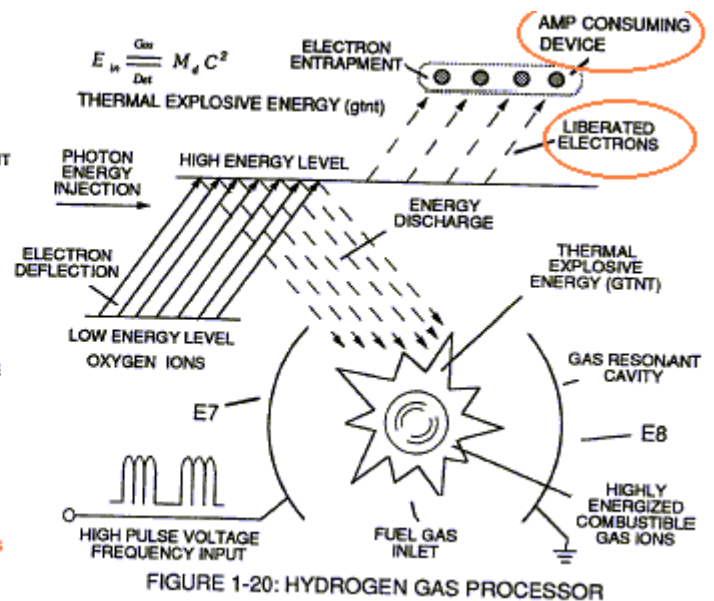

FIGURE 1-9: ELECTRICAL POLARIZATION PROCESS

from Meyer's Memo 1, we see clearly the concept of liberated electrons, that can be collected as output DC current during the pulse charging relaxing time...

Meyer's drawing suggest electrons are smiley guys :)

Likewise, Ions or particles within the electrical circuit having unlike electrical charges are attracted to each other. Ions or particle masses having the same or like electrical charges will move away from one another, as illustrated in Figure (1-6).
(see formulas on the original document)

(MDG nov07: Explanation continue, explaining that the applied high voltage alone separates the hydrogen and oxygen atoms, through electrons liberation. No mention of the 'dielectric breakdown effect' participating in the process.)

In Summation : The Hydrogen Fracturing Process simply triggers and releases atomic energy from natural water by allowing highly energized sub-critical combustible gas ions to come together during thermal gas ignition. The Voltage Intensifier circuit brings on the "Electrical Polarization Process" that switches off the covalent bond of the water molecule without consuming amps. The Electrical Extraction Circuit not only decreases the mass size of the combustible gas atoms; but, also, and at the same time produces "electrical energy" when the liberated electrons are directed away from the Hydrogen Gas Gun Assembly.

FIGURE 1-14: ELECTRON EXTRACTION CIRCUIT (BB)

from Meyer's Memo1, power alternates between choke and AMP consuming device. Is it that way the numerous liberated electrons are extracted during the pulse charging relaxation time?

$$E_{in} \frac{G_{tt}}{D_{et}} M_d C^2$$

FIGURE 1-20: HYDROGEN GAS PROCESSOR

To get all the 11 Memos in one file, get the original document 'Full Meyer Brief.pdf' (3.7 Mo) available at http://my.opera.com/h2earth/blog/cybrarium

-- Return to the top

4. Peter Lindermann: Stanley Meyer and Xogen - Systems Explained

10 minutes extract talking about Chemalloy, Meyer and Xogen :
Views: 23,741 ; Added: March 07, 2007 ; From: srawofni,
http://youtube.com/user/srawofni : http://youtube.com/watch?v=bqfiAXIs3Xc

Youtube video: **Dr Peter Linderman** speaking at the keelynet conference disclosing current available free energy sources and past suppressed energy technology.

Stanley Meyer - Xogen - System Explained

FIGURE 1

Transcription from MDG, for nov07 update:

... next process for production of free hydrogen is the Stanl Meyer patent. Here a lot of people have not understood really what stan was doing. So it's a method for obtaining the release of a fuel gas including hydrogen and oxygen from water, during which the water is processed as a dielectric media in an electrical resonant circuit

Then he shows the cell, here, which basically consits of concentric cylinders and this ... ; but here is the circuit, and basically there is not much to at what he is saying he is putting 50% duty cycles pulses into this transformer and creating pulses that are going to the fuel cell wich is designed to be a capacitor.

Now, the obvious problem with this situation is this, he is using the word resonant here, like salt and pepper all the way through.

This is not a resonant circuit, this was part of the diversion about how to keep people, how he protected the idea without actually leading people to understand what was going on, and **the proof that this is not a resonant circuit lyes in the bloking diode** ! huuuuuuu gushh

so what you can see here is what he is really doing is this, **this system works without electrolyte** (MDG: Air being the dielectric layer to breakdown) ; so the purpose of it is, **he wants his water to have a fearly high resistance in it**, and so, here is what he is gona do, he got this chokes, **this chokes are very important** because when **he puts this inductive spikes on**, here, ... **with the diode**, what he is doing is, **he is charging this capacitor**, and the resonant chokes are specifically **to damp the voltage spikes that could prematurally set this thing off**.

So what he is doing, he is **making sure that he can charge this capacitor with kind of soft pulses** and pulse the thing up, so he can get this **capacitor to charge to the maximum degree before the dielectric material, in this case water, creates a catastrophic dielectric failure** in the capacitor

At which point, all the charge in the capacitor, **all the voltage in the capacitor is converted to amps** as a shorts out internally, and **orderly destroys the water it moves through and creates massive quantities of hydrogen and oxygen**.

(minute 3.00 of this video)
and as soon as it's out of the way, water rushes its back in, **the dielectric constant is again re-established**, and this is what's happening, while this is happening, **he waits, and starts charging again**.

(showing of patent page drawing progressive water molecule stretching under pulses train)
again this types of **drawing were made to confuse people**, you know the idea of drawing this things are that these were increasingly large resonant pulses and everything, this is all a bunch of ... , **all he is doing is just like any other voltage multiplier that's used in pulsing**, all you are looking up is a step ramp charger on a capacitor until it reaches it's catastrophic failure, that is the method of the Stan

Meyer's system, and it does produce massive amounts of gas for a very small amount of electricity.

(minute 4.00 of this video)
to just reiterate that Stan Meyer is of course dead but that **is twin brother went up to Canada**, and started up a new **company called Xogen**, where they have got a new patent and are moving forwardly rapidly on the commerciallization of this technology

Here is the website Xogen.com. And you can see here Xogen's process does most significant promesses that it will make economical for hydrogen to replace carbon based fuels, and could consivibly reduce atmospheric pollution.

And here a Frequently Asked Questions, look at question number one:
What is Xogen technology?
Xogen Power, Inc. applied for worldwide patents based on researchs that discovered a breakthrough technology that separates water in a usable hydrogen and oxygen with a modest electrical input.

(minute 5.00 of this video)
The gas hydrogen is created on demand at the point required, which eliminates storage and provides transportable and affordable method of production of hydrogen.

So again here is a new company moving forward with the same basic technology. Will Xogen provide a full disclosure of their technology ? No we won't.

But, it doesn't matter, I just did. (spectators laughing in background)

This technology is real guys, you know all the chemistry books thast say it takes more electricity to crack water than you can get out of it. Thraw out this books in the fire and try to get some BTU out of it !

Free Energy, so basically the methods for what we call **superefficient electrolysis**, which can create unlimited amounts of free hydrogen for fuel

(minute 6.00 of this video)
we got **4 known methods** that probably are more. First one is **Freedman's Chemalloy that absolutly works** (MDG mov07: See page 'water Dissociation' on this website for more info on Chemalloy)

Second one is **the Meyer/Xogen process** where you **use the electrolysis cell as a capacitor which you charge untill you reach a catastrophic breakdown of the dielectric material at which point your voltage is just converted to amperage and you get a gigantic blast of gas**, and you can just repeat it many times a second.

And again it goes back to Gray, it goes back to Tesla, it goes back to all this things that's the way into this systems, as **a unidirectionnal application of a voltage, which then resolves as a free energy impulse of current**.

This is exactly what is going on in the **Muller (Ion Back EMF Generator)**, so an unidirectionnnal impulses.

(minute 7.00 of this video)
The third way again, ... **Muller is doing this**, he's got is **Ion Back EMF generators** sitting on a bid engine which only takes a few horsepowers to turn it. He is taking all the electricity from that, creating hydrogen and after that runniing the engine and plus the big loads.

They are doing now, at industrial level, and off course you can also take all your outputs from permanent magnet transformer, damped in an electrolytic cell of any type you want, making free hydrogen, and also Bedini's system, where we show that he was pulsing the light bulb when he was charging his battery, if you put an electrolysis cell and that on, you can make hydrogen while you are charging your batteries.

(minute 8.00 of this video) Not all the end of this video is transcripted because I found it not important on a technical consideration.
Ok, lets talk about emerging markets ... free energy systems are reaching the market today, ... things are changing in the wold ... we are not going to ask them, if you don't ask for permission, they can't say no.... on remote mining, and other remote activities, oil companies are going to take power plants based on Muller system, and they are running the onboard electrical generation on big oil platforms, in place of staff like petrol, they are running on superefficient electrolysis.

This things are going in now, don't expect the government to sanction this ... the government can't admitt it's happening, but it can't stop it anymore ...

from Panacea-bocaf.org http://www.panacea-bocaf.org/ResearchandDevelopment.htm :

Peter Linderman DSc became interested in Free Energy in 1973, when he was introduced to the work of **Edwin Gray**. By 1981, he had developed his own free energy systems based on variable reluctance and pulsed motor designs. During the 1980's, he worked off and on with both **Bruce DePalma** another researcher whose devices was suppressed and **Eric Dollard**. In 1988, he joined the **Board of Directors at Borderland Sciences Research Foundation**, and served until 1999.

During this period he authored more than 20 articles on various alternative topics such as **Radionics, Jet-Lag, Lakhovsky's MWO, and Free Energy**. Currently, Dr. Lindemann is a **research associate of the late Dr. Robert Adams** another pioneer in alternative energy devices in New Zealand, and **Trevor James Constable** in the USA. He is also **Director of Research for his own company, Clear Tech, Inc..**

-- Return to the top

Water as Fuel, by Admiral Sir Anthony Griffin, Sept 1993 from 'Waterfuel Tech Adm[1]. Griffin on WFC P56.pdf' (303 Ko) at http://my.opera.com/h2earth/blog/cybrarium

The following is an extract from the lecture given by Admiral Sir Anthony Griffin to the Marine Division of the Southampton Institute, Warsash, UK, as part of the symposium on the Impact of New Technology on the Marine Industries, September 1993.

Practical Demonstrations: Many practical demonstrations of Water Fuel Cell technology have already been made and more are planned. Most of Meyers' patents were **filed under a particular clause of the US Patent Regulations which requires a claim to be demonstrated before it can be granted.**

The 1980 Patent: The first and probably the most frequently demonstrated patent is based on the actual equipment used in 1980 to support Meyer's claim for his hydrogen fracturing process. I have now personally witnessed it 4 times.

In outline, the apparatus consists of **9 concentric stainless steel cylinders, with about a 1 mm gap between them. They are 14 inches long and <u>are effectively waveguides</u>. They are immersed in tap water** contained in a glass vessel. The top of the vessel is normally gas tight but has a pressure gauge and a valve to allow gas to pass to atmosphere when required.

Electrical power **with opposite polarities** is applied **in pulses** to the inner and outer cylinders and **at a power of 10 watts, i.e. 5 volts at 2 amps**. A **considerable quantity of gas immediately accumulates** in the top of the vessel and, **within 10 seconds, reaches a pressure of about 10 pounds per square inch**.

When the valve is opened, a jet of cold gas can be felt, but on this being lit with a match, the **temperature instantly rises to about 3,000ºF** and the flame burns through a stainless steel wire in about 2 seconds. The glass vessel and its attachements **remain at room temperature throughout, thus <u>ruling out any normal electrolytic process</u>**. Plainly, the generation of such a quantity of gas and its immediate application at such a high temperature, demands more than 10 watts of electrical energy. Furthermore, as the stainless steel cylinders have not noticeably been consumed over several years, **the balance of the energy required can only come from the Zero-Point Energy in the water**.

Meyer points out that **<u>all the parameters involved in this demonstration have been deliberately de-optimised, e.g. 5 volts instead of 20,000 volts and 2 amps instead of 0.5 milliamp, 14 inch tubes instead of an optimum of 27 inch tubes</u>**, etc. in order to allow the principle of the water fracturing process to be demonstrated without risk of explosion.

The 1985 Dune Buggy: In 1985, a dune buggy powered by a standard 1,600 cc Volkswagen engine was modified through Water Fuel Cell technology to run on water fuel. It was a breadboard quality experiment which was successfully demonstrated as broadcast on American TV and reported in the press. A video tape record is held by London University.

The 1993 Dune Buggy: This will be the first demonstration of a complete system, manufactured to a pre-production standard as a conversion kit for a typical car. The rig is designed for powers up to 400hp and, in production, Meyer expects to market it

for 1,500 USD. The date has yet to be settled, but is expected to be within the next 2 months in Ohio.


Pictures from youtube video 'Original Meyer Water Fuel Cell c.1990'.

Follow diagrams of the 'Hyperdrive ZPE Impelled Water Demonstrator', size 8"x8"x2" approx. (see pdf document)

The Theory of Water Fuel Cell Technology: This begins with the basic structures of hydrogen and oxygen atoms and how they are combined in the water molecule.

Figure 5. The Hydrogen Atom

Figure 6. The Oxygen Atom
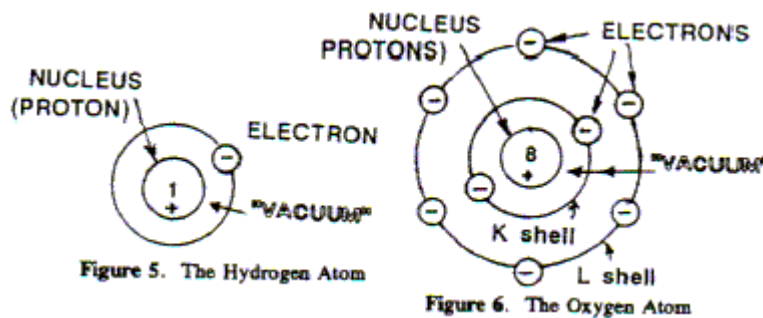
Note the orbital paths of the electrons and their 'shells'; the magnetic polarity of an electron and a nucleus; and the space occupied by the so-called vacuum.

Figure 7. The Water Molecule
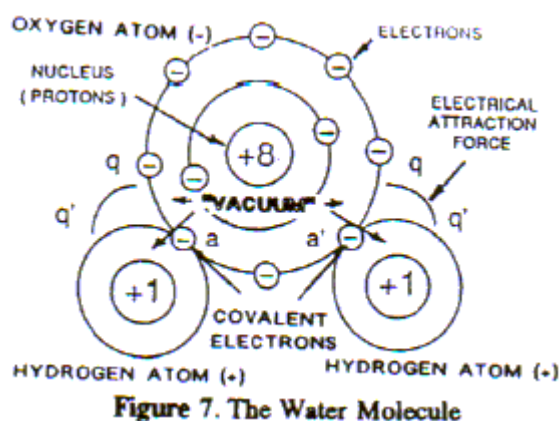
Note the presence of the two hydrogen electrons in the 'L' shell of the oxygen atom. These are known as the covalent electrons which are bonded in position by considerable electrical force. In the case of normal electrolysis, the energy needed to break these bonds and produce separate hydrogen and oxygen atoms from water, is roughly three times the energy of the hydrogen released. It is thus a highly inefficient process because of the considerable amount of waste heat which is generated.

The energy extracted from water by the Water Fuel Cell derives from **two distinct, but virtually simultaneous processes**. The first is the hydrogen fracturing process which dissociates the hydrogen gas from the water molecule. The second is the electron ionisation process which enhances the explosive energy of the gases released. (MDG nov07: may be an explanation of the Hydroxy gas strange properties ...)

The Hydrogen Fracturing Process: The basis of this process is the **subjection of the water molecule to very high voltage (20,000+) pulses at a particular frequency** and within positively and negatively charged voltage zones **at a very low current of less than 1 milliamp**.

The effect is to attract the negatively charged electrons towards the positive voltage zone and the positively charged nucleus towards the negative zone. The electron orbital path is changed from a circle to an ellipse and this, coupled with the effect of pulsing, causes such electrical stress on the molecule that the covalent bonds between the hydrogen and oxygen atoms are broken and the 2 gases separated. Thereafter, they

require substantial energy to be applied before they can be recombined. Because the current is so low, very little heat is generated. It is worth noting that, weight for weight, hydrogen contains about 2.5 times the energy of gasoline and the latent energy in the hydrogen content of a pint of water amounts to over 9 million Joules, or enough to run a 1KW heater for 2.5 hours.
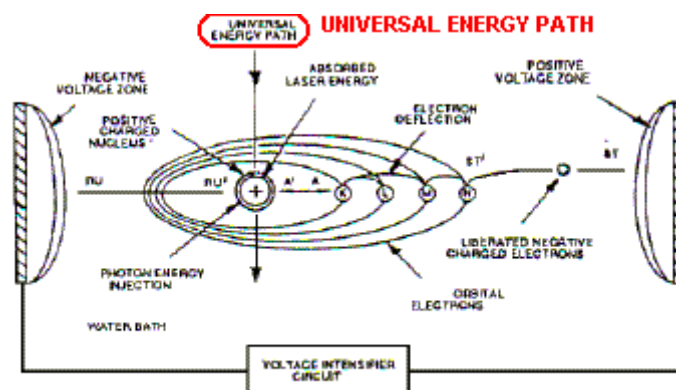

Figure 8. The Hydrogen Fracturing Process

Explosive Energy Enhancement: Two distinct questions arise over explosive energy enhancement. First, where does the additional energy come from? And second, how is it to be obtained and controlled?

The answer to the first question is the so-called vacuum within the electron shells. For many years this vacuum was regarded as a void. But James Clerk Maxwell, in his 'Treatise on Electricity and Magnetism' published in 1873, pointed out (vol 2 pages 472 and 473) that the vacuum in fact contains a considerable amount of energy. Subsequent work bears this out and it is now generally accepted that the vacuum is in fact seething with energy which has variously described as, for example, 'universal energy', 'gravity field energy', or 'zero-point energy'. John Archibald Wheeler of Princeton University, a leading physicist who worked on the US atomic bomb project, has calculated that the flux density of zero-point energy is of the order of 10^{93} grams per cm^3. It is also recognised that the state of this so-called 'sea of energy' is chaotic. Hence it needs to be 'engineered' or made coherent before it can be translated from a microscopic to a macroscopic state. In other words, it requires special treatment before it can be tapped and controlled for normal external use.

Various answers, mostly theoretical, have been given to the second question. Recent examples include Ilya Prigogine's book 'Order Out of Chaos' which describes the work which won him the Nobel Prize for Chemistry in 1977, Moray B. King's 'Tapping the Zero-Point Energy', Dr. J. Huber's paper 'Phenomena of the Free Energy in Nature and Technology', John Davidson's 'The Secret of The Creative Vacuum' and, from the Kansas State University, Gary L. Johnson's 'Electrically Induced Explosions in Water'. Some 30 supposedly practical devices have been made or suggested over the past 80 years, but although some have been demonstrated, none has been developed or engineered to a pre-production standard.

Meyer's Water Fuel Cell technology stands out as the only apparent exception. It has encounteres deep scepticism but no argued rejection. Indeed, an increasing number of scientists and engineers in the USA, Europe and Asia, accept the technology and are

prepared to invest in it on the basis of current evidence. A practical demonstration is in fact due to take place within the next few weeks, based on a fully designed system, engineered to a pre-production standard and fitted to a running 'dune buggy'.

The technical basis for Meyer's extraction and control of zero-point energy lies mainly in the effect produced on an atomic nucleus by continuation of the same high voltage pulsing that causes the dissociation of the water molecule. The nucleus consists of one or more positively charged protons bound together with a number of neutrally charged neutrons. The electrical effect of the electron pumping action mentioned earlier, causes an annulus to appear in the middle of the nucleus. The zero-point energy is drawn through the annulus in an helical motion and in so doing, becomes coherent and hence a usable source of energy. The voltage dictates the size of the annulus, and hence controls the energy obtained. Since the basic structure of the atom is retained, no alpha or gamma radiation occurs. The effect might be illustrated by a bath full of water. So long as the plug is in place, the water remains still and apparently powerless. However, when the plug is removed, the water swirls away with a helical motion down the plug hole and, under the influence of gravity, forms a powerful jet which can be directed to do work.

Meyer further stimulates the energy yield by injecting laser energy into the ionised water vapour. A diagram of the energy enhancement system is shown in Figure 9:
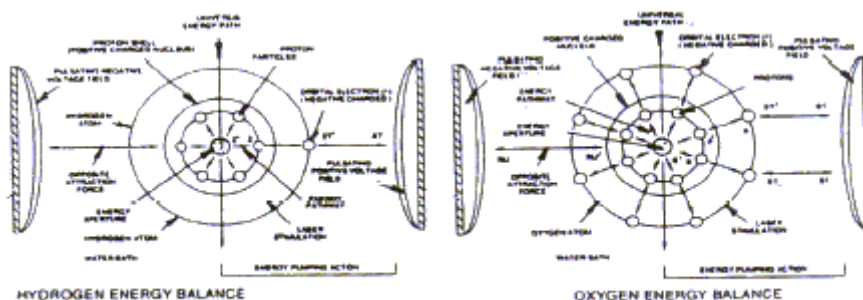

Figure 9. Explosive Energy Enhancement

The hydrogen fracturing process and the energy enhancement of the gas occurs almost simultaneously within the fuel injector. This, in an internal combustion petrol or diesel engine, replaces an existing spark plug or diesel fuel injector, and the output is ignited by a high voltage pulse on entry into the cylinder. Consequently, the hydrogen does not have to be stored and the fuel tanks of land or air vehicles contain nothing but water. Vessels floating on water need no fuel tanks. The system is thus not only extremely safe, but also inexpensive. Meyer has quoted the in-production cost of a conversion kit for a 1,600cc Volkswagen engined car as 1,500USD (1993 USD values).

5. The Water Fuel Cell and the First and Second Laws of Thermodynamics:

The Water Fuel Cell technology encounters a credibility gap because it appears to run counter to the long established laws governing our interpretation of Nature. Some people therefore reject the Water Fuel Cell because it appears to be un-natural and just one more spurious claim for perpetual motion. In fact, the Water Fuel Cell is entirely

natural. It merely demonstrates a new and revolutionary way of harnessing what nature has always had on offer. It does not infringe the two main laws of thermodynamics, i.e.:

- **The First Law**: 'The total energy of a thermodynamic system remains constant although it may be transformed from one form to another'.
In the case of WFC technology, the system is global. The energy required to drive the engine comes from the ZPE contained in the water, a virtually inexhaustible source. The exhaust from the engine is water vapour which returns to the atmosphere.

- **The Second Law**: As originally formulated by R. Clausius in 1865, this law states that 'The entropy of the World strives towards a maximum'. As recently formulated by Prigogine and Stengers, this law 'contains two fundamental elements: (1) a negative one that expresses the impossibility of certain processes (e.g. heat flowing from a cold to a hot source) and (2) a positive, constructive one. It is the impossibility of certain processes that permits us to introduce a function, entropy, which increases uniformly and behaves as an attractor for isolated systems'. It is at maximum when the system is in equilibrium. Non-equilibrium is the source of order and brings order out of chaos.

Since WFC technology postulates non-equilibrium, it can be said to be supported by the positive element of this Law.

The vehicle System: The system starts with a normal 12V car battery and a tank full of water (salt, frsh or distilled). Under computer control, the Voltage Intensifier Circuit is energised by the battery to generate high voltage pulses at a very low current, <1 milliamp, the voltage being responsive to the throttle. Simultaneously, water and ambient air are mixed into a water mist which is injected with laser energy and fed to each fuel injector. There it is subject to high voltage pulses which, virtually simultaneously, lead to the separation of the hydrogen and oxygen gases, and the explosive energy enhancement. A special high voltage pulse, applied at the exit of the fuel injector, ignites the gases as they enter the cylinder. The system is outlined in figure 10.(see schema Figure 10)

- **The Fuel Injector**: This highly innovative development accounts for the compactness of the vehicle conversion kit (MDG nov07:see picture below on the webpage). It replaces the 'resonant cavity unit' which formed a relatively bulky and expensive component of the system as originally designed; eliminates the need for a special hydrogen conduit between the cavity unit and the fuel injection system; and reduces the variety of such systems by allowing any adjustments to be made through a newly designed universal computer. A schematic diagram is shown here:
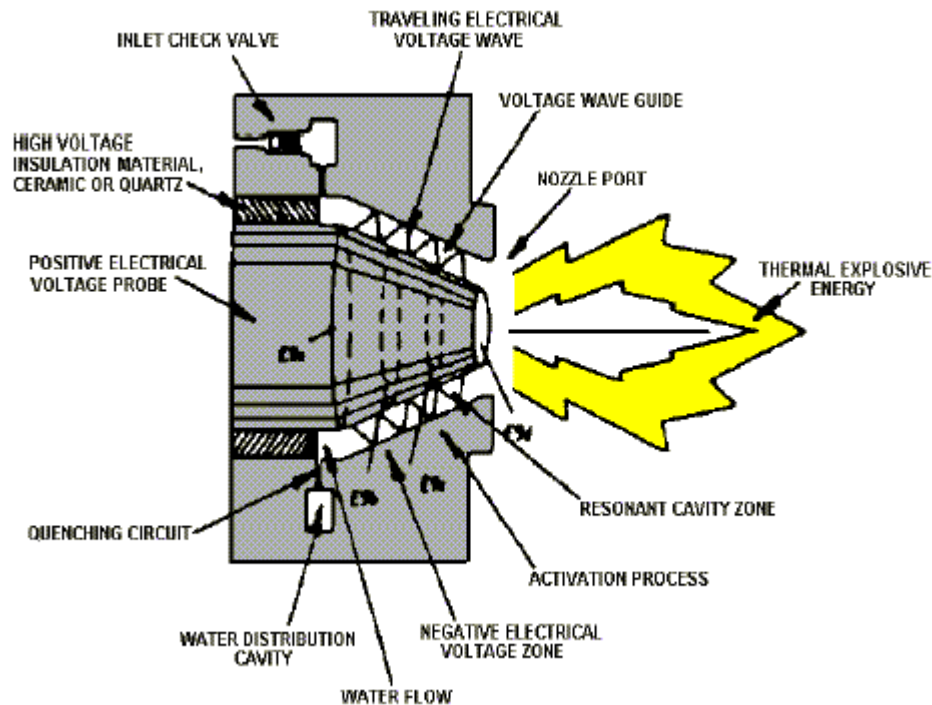
Applications: In this current state of development, which is to a pre-production standard of engineering, the WFC technology can provide a safe, economical and pollution free source of universal energy for all internal combustion petrol or diesel engines of up to 400horsepower. In addition, it can be readily adapted to gas turbines (both marine and aerial), to desalination plants, home heating boilers and industrial furnaces. **A Dublin food processing company is now, with Irish Government support, manufacturing a water-fuelled furnace under licence from Meyer**. When WFC technology reaches its full production stage, Meyer intends to market a range of conversion kits.

Given some conventional engineering development, Water Fuel Cell technology could be applied to very much higher powers, such as electricity generating plants (both fossil and nuclear fuelled), slow speed diesels, and space rockets.

In all these cases, energy would be in the form of hydrogen, obtained from the dissociation of water, coupled with Zero-Point Energy itself through energy enhancement. Meanwhile, Meyer has a further development in hand he calls 'hyperdrive'.

Hyperdrive: This new development does not require the generation of hydrogen and its subsequent combustion. It applies the energy, made available electrically from high voltage pulsing of the Zero-Point Energy Field, directly to the generation of a water jet. It does not require an engine and has no moving parts. The power level is governed, as before, by the applied voltage. Direction is controlled by feeding the jet through manoeuvring nozzles such as those fitted to the Harrier Vtol aircraft and to space rockets. It is therefore of special significance to marine transport.

Author's Biography: Admiral Sir Anthony Griffin was a regular executive officer in the Royal Navy for 42 years, the last 5 of which were spent as Controller of the

Navy with responsibility for the development and construction of all surface ships, submarines, aircraft and weapons. Retired from RN in 1975 to become first Chairman of British Shipbuilders from 1975-1980; President of the Royal Institution of Naval Architects 1981-1984, and founder member of the British Maritime League and the British Maritime Charitable Foundation in 1982.

-- Return to the top

Exclusive Pictures from Meyer systems from 'MeyerPhotosExtracted.rar' (.rar=.zip 6.4 Mo) at http://my.opera.com/h2earth/blog/cybrarium
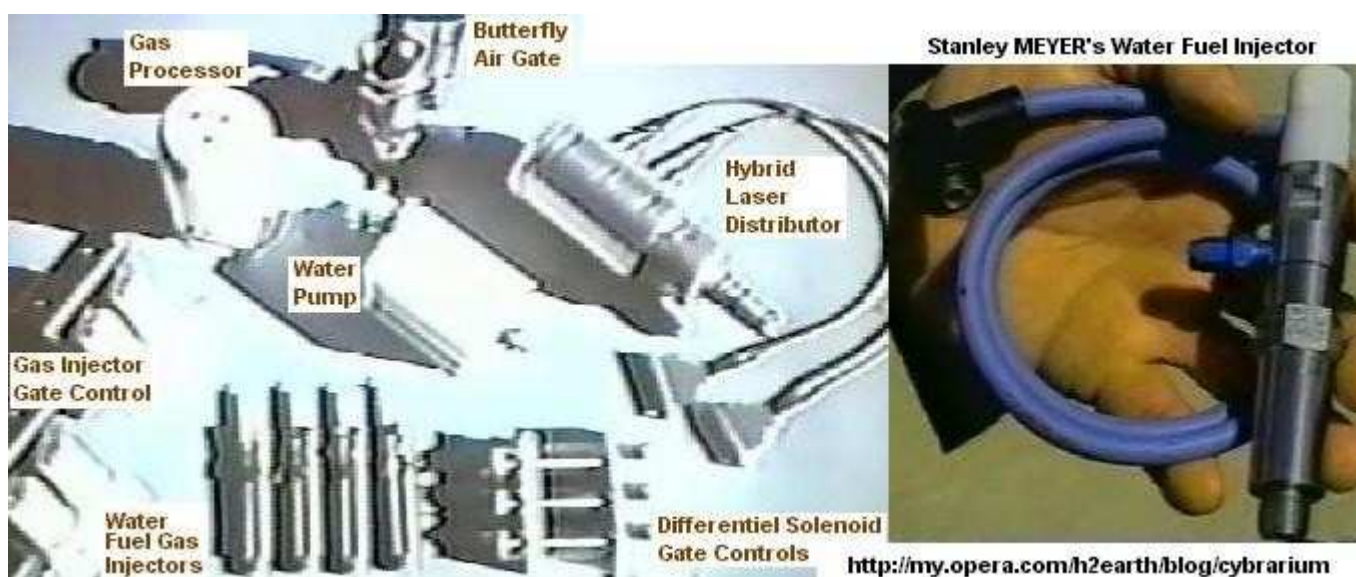
it was for REAL !

6. Stanley Meyer Patents

See -
http://www.osen.org/Technologies/Hydrogen/RelatedPatents/tabid/374/Default.aspx

- Have it : Management system for IC engine using hydrogen gas 1990 US-5293857-A WO-9208046-A1 AU-9168870-A
- Have it : Fuel gas production with enhanced thermal energy release 1987 US-5149407-A EP-381722-A, EP-381722-A4 WO-8912704-A JP-3500042-W AU-8938623-A
- Have it : Fuel gas production with enhanced thermal energy release 1987 US-4936961-A EP-381722-A, EP-381722-A4 WO-8912704-A JP-3500042-W AU-8938623-A
- Have it : Controlled thermal energy production from gases 1986 US-4826581-A EP-333854-A, EP-333854-A4 WO-8901464-A
- Have it : Generator producing hydrogen-oxygen mixture from water 1985 US-4798661-A
- Have it : Electrical pulse generator for power supply 1983 US-4613779-A
- Have it : Gas electrical hydrogen generator 1984 US-4613304-A

- Have it : Start-up/shut-down system for hydrogen gas burner 1982 US-4465455-A
- Have it : Hydrogen gas burner with controlled recirculation 1982 US-4421474-A
- Have it : Hydrogen gas injector system for IC engine 1982 US-4389981-A CA-1233379-A EP-86439-A, EP86439-B DE-3381176-G
- Doesn't have it : Light-guide lense assembly for solar energy concentration 1980 US-4275950-A
- Doesn't have it : Multi-stage solar storage system 1980 US-4265224-A
- Have it : Solar heating system 1976 US-3970070-A
- Have it : Converting water to fuel containing hydrogen - by subjecting water mist to unipolar pulsing electrical signal 1991 CA-2067735-A WO-9222679-A1 JP-7505186-W AU-9184471-A
- Have it : Combustion system with controlled mixing of (non) volatile gases 1984 CA-1231872-A EP-122472-A
- Have it : Hydrogen oxygen generator - has direct current voltage applied to pair of non-oxidising metal plates immersed in water 1982 CA-1234774-A EP-111573-A JP-59129791-A
- Have it : Electrical generator employing hydrogen gas generator 1982 CA-1228833-A EP-106917-A JP-59132784-A, JP-59148584-A
- Have it : Hydrogen-oxygen generator with controlled gas burning 1982 CA-1235669-A EP-101761-A, EP-101761-B DE-3280143-G
- Have it : Electrical power transformer using magnetised particles 1982 CA-1213671-A EP-98897-A JP-58207610-A
- Have it : Non-electrolytic separation of hydrogen and oxygen from water 1982 EP-103656-A
- Have it : Control and driver circuits for fuel gas cell 1990 WO-9207861-A1 AU-9174852-A
- Have it : Apparatus for non-electrolytic production of hydrogen from water 1984 CA-1234773-A JP-59059889-A, JP-910450001-B
- Have it : Combustion system using hydrogen-oxygen generator

-- Return to the top

Other links about MEYER : http://countrycoast.com/waterbuggy.htm - http://automorrow.com/articles/meyers.html
- http://www.padrak.com/ine/NEN_4_11_1.html - http://www.stanleymeyer.com/index.html
- http://www.wasserauto.de/html/stanley_meyer.html - http://www.rexresearch.com/meyerhy/meyerhy.htm
- http://www.paulkemble.com/stan3.htm - http://www.hydropowercar.com/comment.php?reply.content.18.6
- http://www.777001.com/index.php/Persons:Stan_Meyer - http://www.halexandria.org/dward172.htm
- http://www.fortunecity.com/greenfield/bp/16/freeenergycircuit.htm - http://www.befreetech.com/media.htm

AARON/QIMAN13 REPLICA of Stan Meyer: (page created at November 2007 Update)

## **Aaron Murakami (called Qiman13 on another forum) work on Stan Meyer**

Transcription of Aaron youtube video **'Back EMF vs Collapsed Spikes', posted September 05, 2007:** http://youtube.com/watch?v=9_rvJQb2SDY
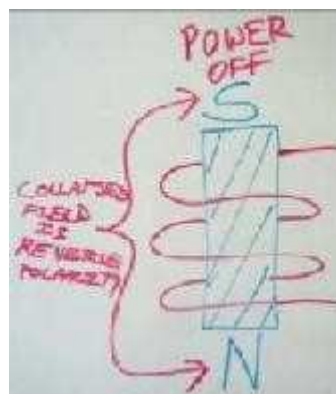
Collapsed Spike vs. Back EMF - www.EnergeticForum.com/Energy

For a coil with NORTH field at the top, wind like this:
When putting PLUS to the top and NEGATIVE to bottom, you get the NORTH field at the top
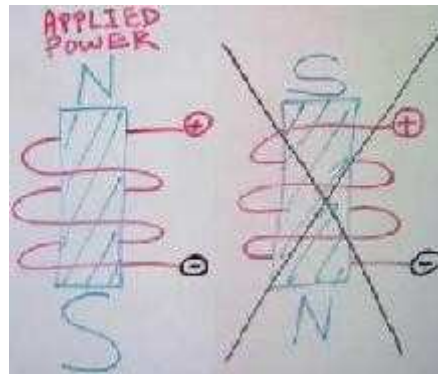
When you disconnect power, field collapses and reverses polarity.
SOUTH will then be at the TOP / NORTH will then be at the BOTTOM

During the active process of charging the coil while current is moving, LENZ LAW exhibits itself as BACK EMF
What is LENZ's LAW?
'The magnetic field of any induced current opposes the change that induces it'.
What is BACK EMF or CEMF (counter EMF)?
'EMF the pushes against current which induces it, is caused by a changing electromagnetic field.'
So we see that 'BACK EMF' is happening DURING the ACTIVE process of charging a coil.
Here is a visualization of BACK EMF DURING the APPLIED ON PULSE.

AFTER the power to a coil is disconnected or turned OFF, the field collapses in reverse polarity causing a 'spike'.
1. Power applied to coil and BACK EMF opposes it
THEN
2. Power is turned off anf field collapses
When the coil is being charged, the loop is CLOSED for that moment. When closed, current can flow.
When power is disconnected from coil, the loops is OPEN and when open ...
Ask yourself: 'How much CURRENT can flow when loop is open?'
Ask yourself: 'If no current can flow, how much BACK EMF is opposing no current?'
Ask yourself: 'If the loop is open and there is no current, how can there be any BACK EMF?'
When power is disconnected, magnetic field collapses very fast with high voltage potential and no current.
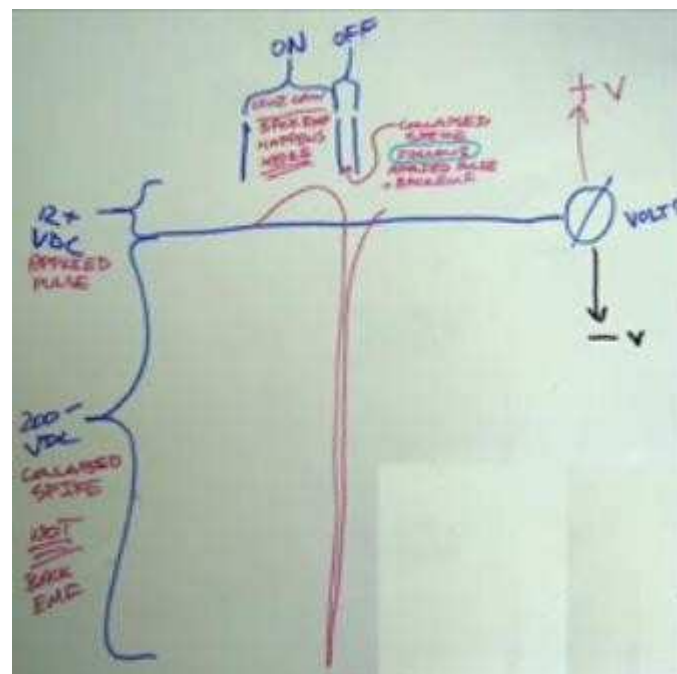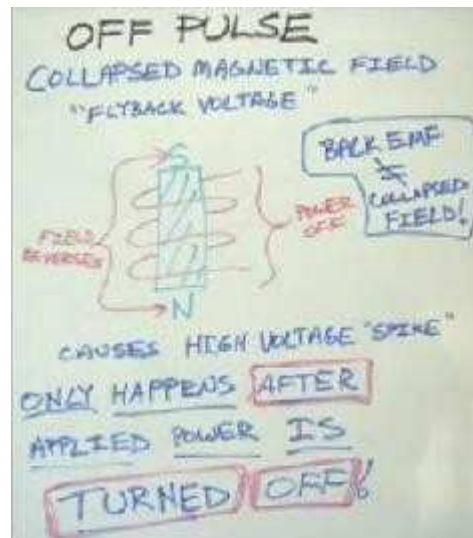
BACK EMF happens DURING application of power to charge coil. THEN, field collapses AFTER power is disconnected.

Many people tinkering in the 'free energy' field is often talking about the collapsed spikes as BACK EMF

Refer them to this video OR have them visit: www.energeticforum.com/renewable-energy

- **comment 6** by qiman13 (http://youtube.com/user/qiman13) : again you are mistaken. the diagram is correct. There are 3 (THREE) flows over a wire. Pos potential moves over the coil from the + on the input source to the - on the input source. Neg potential moves over coil from - on input source to pos on input source. The electrons move from input source - direction to the + on the input source and are donated by the copper atoms in the wire itself and not from the battery.
- **comment 7** by qiman13 (http://youtube.com/user/qiman13) : Exactly as shown, if

the wire is wrapped around the core as shown and you apply a battery as shown, you will get a NORTH field at the top and any claim to the contrary is absolutely delusional.

- **comment 10** by RoadRunnerLaser

(http://www.youtube.com/user/RoadRunnerLaser) : Hoo-bloody-ray !!! Flyback voltage ! Thank you.

Although, I think that most of these 'FE experimenters' wouldn't know flyback voltage from back EMF from a smack in the face with a tuna ! Most people use the term back EMF without realising that they are using the wrong term even though they are really meaning flyback voltage.

--- <u>Return to the top</u>

Transcription of Aaron youtube video **'Water Fuel Cell (WFC) - conditioning the tubes',** added August 22, 2007, 4.50 minutes:
http://youtube.com/watch?v=qXRMVZWrgSk

Water Fuel Cell (WFC) by Aaron Murakami 'Conditioning the Tubes'

T304 SS Tubes, Positive (+) outside tubes ; Negative (-) inside tubes ; 1mm gap spaced w/wire insulation
Power hitting the cell is: 120Hz (pulsed DC), 4.74 Volts @ 2 Amps = 9.48 Watts
White powder coating visible on inner tubes, which are negative polarity. You must have good coating for optimum efficiency.
More info, visit ... www.energeticforum.com/renewable-energy
or the FREE Members Only section www.energeticforum.com/energy ; I posted schematics and other info there
White Dragon Press www.whitedragonpress.com ; Book coming soon to explain the science in simple terms

9. *Stan's Circuits Pictures and Videos*

Water Fuel Cell (WFC) - conditioning the tubes

Transcription of Aaron youtube video **'Stan Meyer WFC Bifilar Chokes',** posted August 27, 2007: http://youtube.com/watch?v=ozpRNpM6FqM

Stan Meyer WFC ; Bifilar Choke ; Early Analysis
Everyone asks ... How is the bifilar choke wound ??? And how is it connected???
You see the following in the diagrams such as in the tech brief:
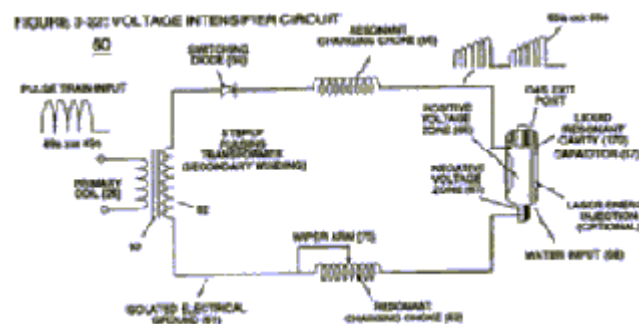
That was the bare bones pic in fig 3-22 in the tech brief
You can see the chokes at the top and bottom before the cell
page 6-3 in tech brief: 'which are axially (spiralled) Bifilar wound about core bobbin'

FIGURE 3-23: PULSING CORE CONFIGURATION
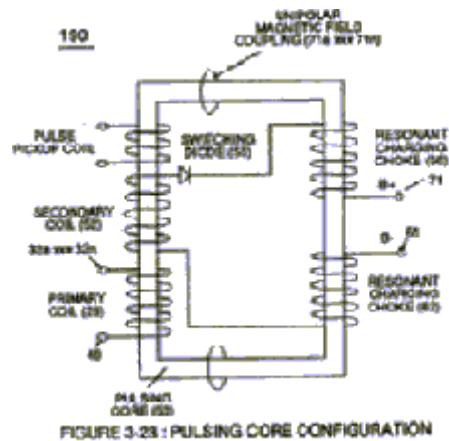
page 7-5 in tech brief: 'Both Inductors (L1/L2) are Bifilar wound in equal length'
page 7-11 in tech brief:'each choke-coil (L1/L2) being of the same impedance value since both coil-wraps (56/62) are Bifilar wound together onto a single spool-bobbin.'

FIGURE 7-6: RESONANT VOLTAGE EFFECT
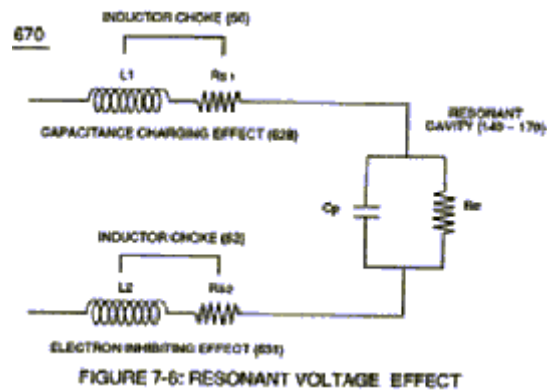
page 10-1 in tech brief: 'The Amp Inhibiting Circuit (970) of Figure (10-1) as to (690) of Figure (7-8) is composed of two copper wires 'Bifilar' wound (wrapped)'

FIGURE 10-1: VOLTAGE INTENSIFIER CIRCUIT

970

Electrical Stress (Opposite Electrical Attraction Force) Water Dielectric Value 78.54Ω

Positive Electrical Voltage zone (B+) (66/E9)

Negative Electrical Voltage zone (B-) (67/E10)

Water Gap

Resonant Cavity (Capacitor)(ER)

Primary Pulsating Coupling Magnetic Field (Rp1a xxx Rp1n)

Resonant Charging Choke (C) (56)

Resonant Charging Choke (D) (62)

Distributed Capacitance (C1a xxx C1n))

Distributed Capacitance (C2a xxx C2n)

Distributed Inductance (FL1a xxx FL1n)

Distributed Inductance (FL2a xxx FLn)

Vn—

0V—

Gated Variable Amplitude Pulse Train (49a XXX 49n)

Mutual Inductance Core

Secondary Coupling Magnetic Field (Rp2a xxx Rp2n) (See VIC Matrix Circuit 7-8)

[SEE VIC AMPLITUDE CONTROL (FIGURE 4-2)]

Blocking Diode

Note: Bifilar Wound Coils (Equal Length) About Magnetic Inductance Core (Amp Inhibiting Network Fig. 8XA)

page 10-2 in tech brief: 'VIC Bifilar Wrap Coil-Assembly (10-3B) and VIC Dual Coil Wrap-Assembly (10-3A) both utilize'

from MEYER's Memo 10

FIGURE 10-3: VIC COIL-WRAP CONFIGURATION

WATER DROPLET

WATER FUEL INJECTOR (TAPERED RESONANT CAVITY) (DIMINISHING VOLTAGE WAVE-GUIDE)

BIFILAR-WRAP RESONANT-COILS (56) (62) (EQUAL LENGTH)

ELECTROMAGNETIC COUPLING

AMP INHIBITING CIRCUIT (WITHOUT AMP INFLUXING)

Vn —

0V —

GATED VARIABLE AMPLITUDE PULSE-TRAIN (49A XXX 49N)

INDUCTANCE CORE

VIC AMPLITUDE CONTROL (FIGURE 4-2)

FIGURE 10-3B: VIC BIFILAR-WRAP ASS'Y
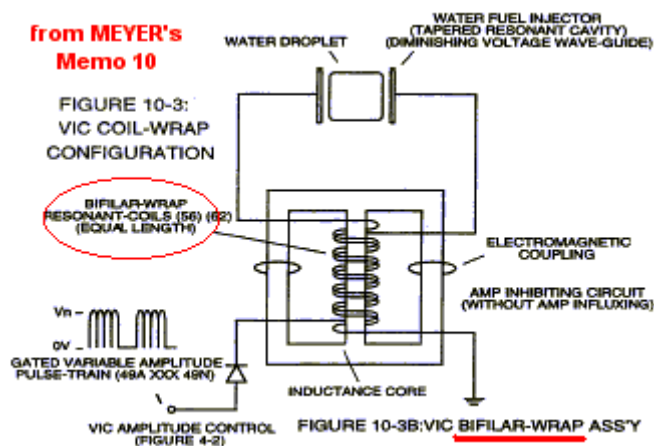
Here is a simple diagram that shows it clearly based on what appears to be in the tech brief
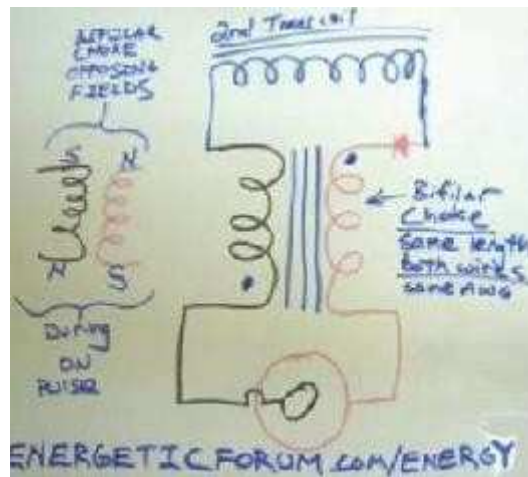
Positive pulse goes through blocking diode
Positive pulse then hits one of the bifilar choke coils
This coil becomes NORTH charged at the end the diode is attached to
The positive pulse hits the positive outside tube
Positive pulse hits the water
Positive pulse potential hits the negative inside tube
Positive pulse potential hits the other choke coil wire connected to the negative tube making that end NORTH
Both wires are wrapped the SAME way. Meyer's diagrams show the coil will be NORTH at the end of the positive potential.
The positive pulse then hits the negative side of the secondary transformer coil during the ON pulse
The positive choke has NORTH AT ONE END and the negative choke has NORTH AND THE OPPOSITE END. THESE FIELDS OPPOSE EACH OTHER.
Get more details at: http://www.energeticforum.com/energy

- **comment 1** by qiman13 (http://youtube.com/user/qiman13) : wiring shown may not be like this but if you have a bifilar choke, you can always switch wiring. one point Meyer says 11.6k ohms per choke... that is about 4500 feet long or more of 44 awg wire.. X 2 is a lot of wire. so make sure you build big chokes or your wasting your time if you really want to duplicate meyer.
- **comment 5** by qiman13 (http://youtube.com/user/qiman13) : forget the part in the diagram about the fields being opposed...that I believe changes on the negative side because of the wfc capacitor. but all else stay same. this is the DC resonance tesla talks about and not serial resonance with the cap like a tank circuit, which it is not (see the blocking diode)??
- **comment 7** by qiman13 (http://youtube.com/user/qiman13) : thanks, I wouldn't have paid attention to it too much if it wasn't for the people in the h2earth dot org skype chatroom. would just like to see all the experimenters doing it like this. the type of wire and specs on it are in the tech brief as far as type of wire, awg, etc... various specs on the core as well..possibly some air core. he sais the I frame core restricted amps the best.
- **comment 8** by qiman13 (http://youtube.com/user/qiman13) : If looking carefully at fig 10-3B, you can see that the direction the wires are coming off the coil when + is put through the diode and hits one of the choke coils, it will be North at that end. Most

of his drawings show this. In figure 3-23, resonant charging choke #56 is drawn incorrectly (possibly)...it is wound different from everything else he shows.

--- Return to the top

Transcription of Aaron youtube video **'Water Fuel Cell - Gas | Stan Meyer Replication Free Energy',** added August 10, 2007:
http://youtube.com/watch?v=pSFpBW8_v8o

Powerful Gas from Tap Water
Plastic pasta jar with stainless steel concentric tubes filled with tap water from my kitchen sink.
NO ADDED ELECTROLYTES.
Input power is pulsed 36 Watts (12 Volts at 3 Amps).
Producing enormous amount of powerful 'Brown's Gas' Stanley Meyer style.
Built by Aaron Murakimi
For more info, visit ... http://www.energeticforum.com/renewable-energy
and http://groups.yahoo.com/group/radianth2o

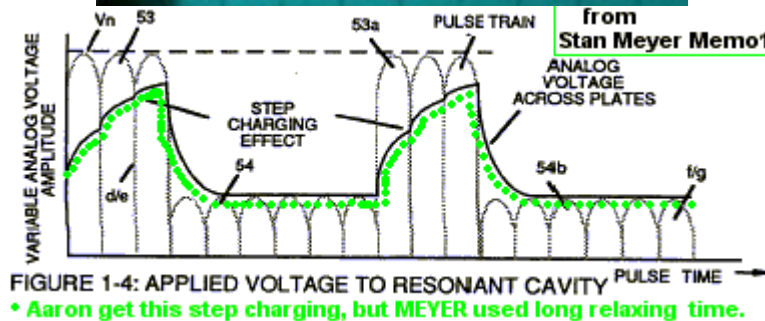- **comment 6** by qiman13 (http://youtube.com/user/qiman13) : The water at my kitchen sink comes from an aquifer. So whatever minerals are naturally occurring in the water is what I am using.
- **comment 10** by qiman13 (http://youtube.com/user/qiman13) : I will post later how to really see what Stan Meyer was doing and the Bedini circuits are the key to the whole thing.

--- Return to the top

Aaron's WFC Circuit:

Aaron's Cell Pictures from his album at imaaronhall's photos
http://s59.photobucket.com/albums/g307/imaaronhall/?mediafilter=all

VOLTAGE INTENSIFIER (VIC) CIRCUIT (FIG. 10)

HYDROGEN GAS UTILIZATION

PULSING CORE

UNIPOLAR MAGNETIC FIELD COUPLING

RESONANT CHARGING CHOKE

PRIMARY COIL

SECONDARY COIL

SWITCHING DIODE

PULSE PICKUP COIL

GAS PRESSURE SENSOR

RESONANT CAVITY (8)

All on the same air core
chokes and secondary are trifilar(all
wound at the same time in parallel)

chokes   - to wfc
                          + to wfc
blocking
diode
secondary

primary
                          to pulse gen and
                          power supply

Vn 53   53a   PULSE TRAIN

ANALOG VOLTAGE ACROSS PLATES

STEP CHARGING EFFECT

d/e

54   54b   f/g

VARIABLE ANALOG VOLTAGE AMPLITUDE

FIGURE 1-4: APPLIED VOLTAGE TO RESONANT CAVITY   PULSE TIME →

* Aaron get this step charging, but MEYER used long relaxing time.

8 Aaron's Posts about Meyer Bifilar

On Energetic Forum from file **Aaron_meyer_bifilar.pdf**

Energy The how to of free-energy technologies. Including Bedini, Stan Meyer and other circuits and more. Peter Lindemann projects and other info you won't find anywhere else on the internet.

- Aaron, Energetic Scientist, 08-27-2007, 03:18 AM ; Stan Meyer Bifilar Chokes
The chokes, power coils, etc.. in Meyer's circuits seemed to have always been very confusing to many people. More people today are understanding how the chokes were designed by simply reading the tech brief that has been under all our noses the whole time.

Several people in the The H2earth Institute - A Virtual Center of Excellence in Waterfuel Technology such as Josh and others are looking at this very closely. I was surprised to find so many ideas about how the chokes are designed considering the fact that the text descriptions and diagrams in the WFC tech brief are very, very clear.

Upon further examination, these are my comments, which may be right or wrong, I don't know but they make sense to me

Here is the tech brief on the wfc by Meyer: (given internet address is uncomplete)

Below are a few tidbits from the tech brief on the bifilar, arrangement, purpose, construction, specs, etc...

Page 6-3:
"Resonant Choke Coils (56/62) of Figure (3-23) (Memo WFC 422 DA) are composed of 430F or 430FR inductance stainless steel film coated (hi dielectric value) wire (typically .004 Ga. or smaller) which are axially (spiralled) Bifilar wound about core bobbin (502), forming individual spiral-wrap (inner to outer circumference and being equally-length) coils (501a xxx 501n) electrically connected in sequential order to form resistive pickup coil (503)."
[Figure 3-23: PULSING CORE CONFIGURATION, Meyer 190]

choke #56 is drawn incorrectly - they are wrapped in the same direction. I'll get to that later.
[Figure 3-22: VOLTAGE INTENSIFIER CIRCUIT, Meyer]

from page 7-5:
Both Inductors (LI/L2) are Bifilar wound in equal length to optimize the electromagnetic field strength (FL) in equal electromagnetic intensity (FLI = FL2) to encourage and promote "Electron Bounce" phenomenon (700) of Figure (7-9) while adjusting (programmable pulse wave-form) input signal Pulse-Frequency (49a xx 49n) to "tune-in" to the "dielectric property" (Re) of water (85) ... causing amp flow to be reduce to a minimum value while allowing voltage potential (627) of Figure (7-7) to go toward infinity if the electronic components would allow it to happen, as graphically illustrated in (750) of Figure (7-14).
[Figure 7-6: RESONANT VOLTAGE EFFECT, Meyer 670]

page 7-11:
"each choke-coil (LIIL2) being of the same impedance value since both coil-wraps (56/62) are Bifilar wound together onto a single spool-bobbin,"

page 10-1:
"The Amp Inhibiting Circuit (970) of Figure (10-1) as to (690) of Figure (7-8) is composed of two copper wires "Bifilar" wound (wrapped) about a magnetic induction core to allow amp restriction (minimizing current leakage) while encouraging "Voltage Potential"(Va xxx V n) across the water molecule to perform WFC "Electrical Polarization Process", as so illustrated in Figure (7-1) WFC memo (426) titled VIC Matrix Circuit."
[Figure 10-1: VOLTAGE INTENSIFIER CIRCUIT, Meyer 970]

page 10-2:
"VIC Bifilar Wrap Coil-Assembly (10-3B) and VIC Dual Coil Wrap-Assembly (10-3A) both utilize either "E"& "I" and "U" Inductance Core configurations to concentrate Mutual Inductance Fields (Rp l/Rp2) in order to optimize Amp Inhibiting Process (750) of Figure (7-14). "E" "I" core shape (10-3B) is most preferable since amp spike surge is minimize during repetitive pulsing operations."
[Figure 10-3B: VIC BIFILAR-WRAP ASS'Y , Meyer]

page 10-4:
"Increasing energy-yield (16/gtnt) still further (xxx 16/gtntnl+ 16/gtntn2 + 16/gtntn ... etc.) is accomplished by increasing the number of Resonant Charging Choke Stages (xxx 56/62n + 56/62n 1+ 56/62n2 + 56/62n ... etc. -S- xxx SS56/62n + SS56/62nl + SS56/62n2 + SS56/62n ... etc.) of Figure (10-4) in "Sequential Order" (-S-) since the total number of Multi-Coil Magnet bifilar coils (56/62a xxx 56/62n) serially electrically connected together are sequentially electrically linked to an equal number of serially electrically aligned Stainless Steel Resonant Coils (SS/56/62a xxx SS/56/62n) ... allowing eachlboth bifilar coil assembly (56/62a xxx 56/62n -SSS56/ 62a xxx SS56/62n) to be electrically and magnetically energized in the same progressive direction toward Water Gap (Cp) and away from blocking diode (55) of Figure (3-34) as to Figure (10-1) and Figure (10-3) '" keeping amp-surge (inhibiting amp flow) to a minimal level [See Voltage Performance Graph (750) of Figure (7-14)] while enhancing Voltage Potential of Electrical Stress (64/RU-RU'a xxx 64/ST-ST'n) as additional Dual Choke Coils (56/62 _ SS56/62) are included in the stacked coil-array forming Voltage Intensifier Circuit (970) of Figure (10-1) as to (620) of figure (7-1) ... see Dynamic Voltage Waveform (770) of Figure (8-1), once again."
[Figure 10-4: DUAL-LAYERED MULTI-SPOOL CONFIGURATION, Meyer 1000]

above pic if only you want to put more bifilar chokes in series

pages 10-4 and 10-5:
"The magnet Coil-Wire (56/62) is best suited for Voltage inducement while the inductance/capacitance/resistance properties of Stainless Steel coil-wire (SS56-SS62) is appropriately used to restrict electron movement beyond the self-inductance of each energized coil when elevated voltage levels (up to beyond 40 kilovolts) are to be reached/obtained without experiencing any appreciable amount of "Amp Influxing."

Generally, magnet coil-wire length is longer than the Stainless steel coil-wire length and magnet bifilar-coil (56/62) is placed on top of Stainless Steel bifilar-coil (SS56/62) to maximize mutual inductance coil-field (Rp2) (adding Rp1 +Rp2) of (690) of Figure (7-8) to cause coil capacitance (Cda xxx Cdn) to help maintain and even increase pulse voltage amplitude (xxx Vn + Vn 1 + Vn2 + Vn .... etc.) while the resistive value (Rs2) of SS Coil-Wire (SS56/62) performs the work of further resisting the flow of amps not inhibited by both self-Inductance fields (Rpl + Rp2), as so illustrated in (690) of Figure (7-8). In all cases, bifilar coils (56/62 - SS56/62) are electromagnetically orientated in the same direction."
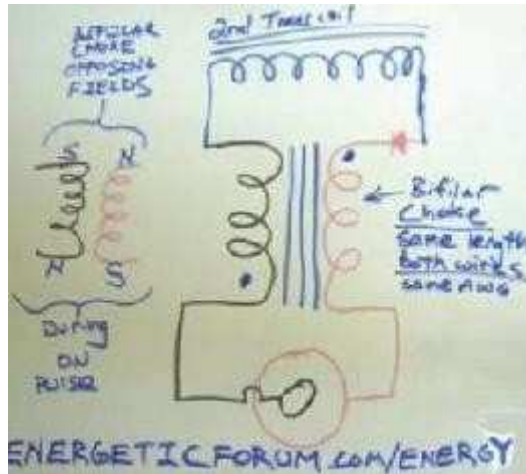
The above pic I drew shows the bare bones bifilar choke system. Top is the secondary transformer coil.

Output through blocking diode goes into one of the bifilar choke winds.

In figure 10-3B, it is easy to see that the direction the winds are coming off the core that when the positive hits that coil, north is at that side.

The potential follows through to the outside positive tube through water to negative inside tube.

Positive potential moves to the other bifilar choke coil (wound the same direction) meaning that north will be at THAT end (opposite of the north on the other coil) and through this coil and to the negative on power supply.

Both choke coils on the pos and neg tube create opposing magnetic fields against each other. On the on pulse, the pos side choke coil is north by the diode side and south by the pos tube side... the neg side choke coil is north by the tube side and south by the power supply neg. On the OFF pulse, they both reverse and also oppose each other.

In many diagrams in the tech brief, this exact configuration shows that the choke coils are in opposition at all times on the off and on pulse.

My picture shows the bare bone system without the electron extraction circuit (EEC) or any coils being tapped.

Meyer says that the I core (rectangle with line down middle) as shown in fig 10-3B is the best core for the choke since this configuration restricts amps the most.

More to come and comments and observations on the above very welcome... With Gratitude! Aaron Murakami

- Aaron, Energetic Scientist, 08-29-2007, 05:53 AM ; core material
[...] if power coils wound on same core that means when that is off/on the magnetic field in core can also contribute to the bifilar resonant coils in addition to the the

actual voltage potential over wires affecting chokes. Is that desireable? I don't know at this time.

- Aaron, Energetic Scientist, 08-29-2007, 05:13 PM ; core material
[...] any non-ferrous metal like aluminum and copper for a core will create "eddy current" counter current drag and will slow down the frequency and will probably create a lot of heat. air, iron, magnetite, those are all good ones.

- Aaron, Energetic Scientist, 08-31-2007, 06:11 AM ; core material
There are some pretty exotic core materials like metglas and so forth but not practical because ridiculous pricing and so forth. **For the Bedini coils, I've always used bundled steel welding rod**. Much more efficient than solid core.

- jerdee, 09-01-2007, 03:12 PM ; More effecient Bedini coils.
Tesla would increase his inductance by connecting ends of bifilar or multi-coils in series. Have you tried this? This would further decrease current flow allowing only potential. This allows more effecient use of the same amount magnet wire to build a stronger magnetic field.

If you notice also in the beginning of the FEG book of Bedini ('84), you see the energizer coils in series. My thought is this increases capacity as well as significant potential to be released. With this in mind, make 10-3B as a quadfilar. Two or more strands opposing two or more strands with each opposing pairs in series.

- Aaron, Energetic Scientist, 09-02-2007, 02:41 AM ; Bifilar Comparison
I did this test last night so here is a comparison based on hands on real experiment. The one on left side gave almost twice the voltage pulse at the cap than the right one.
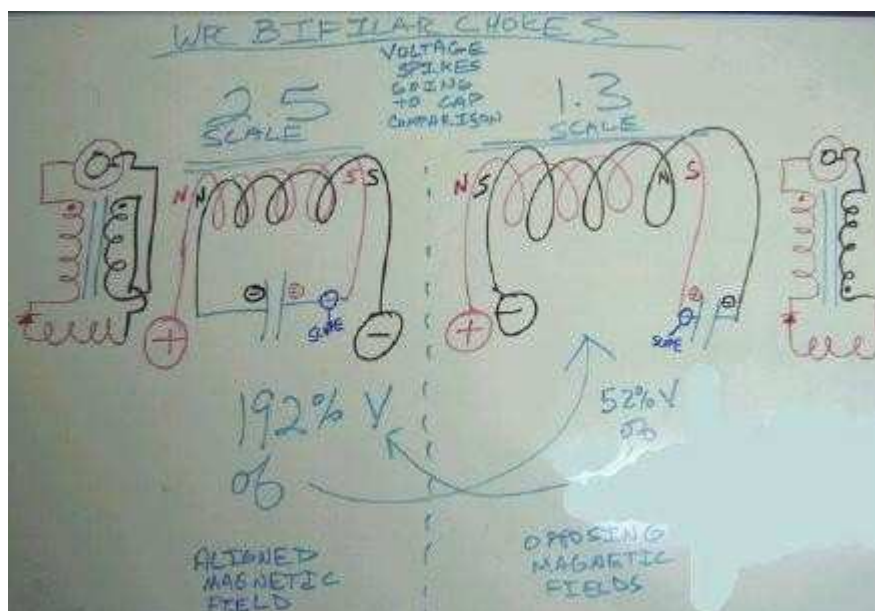
- Aaron, Energetic Scientist, 09-02-2007, 04:04 PM ; physical pic
here is a literal pic of what is represented in the left side of the comparison pic.
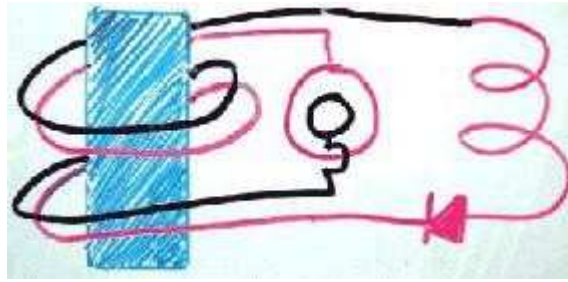
also to note the bifilar capacitance should be more than the wfc...so big bifilar chokes. but to experiement with concept can use any bifilar to see the left does give voltage boost.

- jerdee, 09-02-2007, 10:22 PM
I just did the same experiment this afternoon. I used one strand and two in series for blocking oscillation…along with two in series for power strands. In both cases, the oscillation was slower. This is not the best way to configure multicoils for the SS.

What's interesting …is the aligned fields of the Bifilar w/ wfc load in between creates a larger compressed potential of the LEM wave. When cathode is properly insulated or conditioned this should further the compressed potential LEM wave. This will cause a larger imbalance allowing the vacuum to interact freely. I have a strong feeling that the Lawton circuit should use a Bifilar or more coils instead of two independent inductors. I may be wrong. But from what I gather from Aaron's experiment, the field must be aligned. The D12.pdf does not show this! Also, the Lawton circuit does not pick off the electrons furthering the imbalanced high-energy state of the atomic atom. We are only seeing on half of the picture here.

- Aaron, Energetic Scientist, 09-02-2007, 11:20 PM ; bifilar
I see a lot of "open source" projects that are anything but open source. Everyone seems to continually keep bits and pieces to themselves.

Meyer went from individual inductors to bifilar on same core. Definitely a stronger gradient created here.

(Follow a full transcription of Nikola TESLA patent on his BIFILAR FLAT COIL: see original document.)

- Aaron, Energetic Scientist, Yesterday, 05:12 AM ; bifilar pulsing
One thing appears to be so and that is: during on pulse, cell + is hit with positive pulse. During off pulse, because of blocking diode, coil discharge goes in the SAME direction and doesn't reverse polarity so the cell + it hit with a SECOND pulse of same polarity.

I found the same thing about 3-4 years ago with a single inductor on pos side and diode, discharge is in same direction...I got no reversal in polarity..it was same as initial pulse. I deduced it was as if the switch is open before inductor so it can only go find ground - towards cell.

Same gain as the flat pancakes? I don't know. But if both coils are on 1 core, there will

definitely be more strength in the field than 2 single coils. This is also a known with Bedini coils. 1 coil with 4 power wires is stronger than 4 individual coils. They all pulse together, there is a synergy and the sum is more than the parts. So, I would say in this geometry with these kind of coils, yes, there is a benefit.

page 7-1 in tech brief
VIC voltage circuit (60) utilizes copper wire-wrap to form Resonant Charging Chokes (56/62) of Figure (3-22) in conjunction with Switching Diode (55) to encourage and make use of "Electron Bounce" phenomena (700) of Figure (7-9) to help promote Step Charging Effect (628) of Figure (7-7) **by preventing electrical discharge of Resonant Cavity** (140 - 170) since **Blocking Diode functions as an "Open" switch during Pulse Off-time**;

The off pulse lets coil discharge towards the cap again so you get almost twice the bang for the buck. This seems to evidently help water cap prevent discharge by having that extra pulse keep the voltage up.

The open switch means that on the off pulse, it is the same as being disconnected so it has to go somewhere and finds its way to ground and the only way it can do that is by going towards the cell.

Switching Diode (55) of Figure (3-22) prevents Bidirectional electron flow (current flow in one direction only) since Blocking - Diode (55) only conducts "current flow" in the direction of schematic-arrow while being placed in-line with VIC Circuit impedance interaction (R1 + Z2 + Z3 .•. Re), as mathematically extrapolated in Circuit Equation (Eq 9) ... **Diode (55) being placed between Secondary Pickup Coil (52) and Resonant Charging Choke (56) to act as an electronic switch in open-position during pulse off-time** (T2) of Figure (7-8) while **preventing electron flow in reverse direction when Inductor (L1) collapsing electromagnetic field (FLl) produces another unipolar pulse wave-form (64a - 64b) ... producing unipolar voltage wave-form** (64a xxx 64n) during repeated pulse-signal (46a xxx 46n) on-time (Tla xxx TIn) ... allowing the formation of an gated pulse- frequency pulse-train (64a/64b - T3 - 64a/64b) **when pulse off-time (T3) is greater than time-period (T2) ... input-signal (49a xxx 49n) being a Pulse-Train where (T2) pulse offtime (T2) is adjusted to allows Unipolar Pulse-Train (64a xxx T3 xxx 64n) ... outputting Voltage-wave signal (64a xxx 64n) being a pulse-frequency doubler due to Inductance Reactance (FL) of Inductor Coil (56) of Figure (3-22) when collapsing magnetic field (FI) of Figure (7-3b) re-cuts coil-wrap (Ll) during each pulse off-time (T2) ... producing a second unipolar voltage wave-form** (64b) during the rise and fall of magnetic field (71), as further illustrated in (620) of Figure (7-1).

MAN! He is long winded...

So we know
1. Diode keeps potentials and current in one direction only acting as switch to "disconnect" inductor from circuit on off pulse.
2. Diode is obviously between secondary and charging choke
3. Collapsing inductor causes UNIPOLAR pulse..so polarity stays same in the forward direction.

4. Collapsing unipolar pulse is "pulse-frequency doubler" so cell gets 2 pulses for 1 pulse input.
5. Sounds like when off time exceeds on time, off time is adjusted to ensure that the unipolar pulse train continues with consistency.

The first reference of bifilar in the tech brief on page 6-3 states:
"Resonant Choke Coils (56/62) of Figure (3-23) (Memo WFC 422 DA) are composed of 430F or 430FR inductance stainless steel film coated (hi dielectric value) wire (typically .004 Ga. or smaller) which are axially (spiralled) Bifilar wound about core bobbin (502), forming individual spiral-wrap (inner to outer circumference and being equally-length) coils (501a xxx 501n) **electrically connected in sequencial order** to form resistive pickup coil (503)."

Sounds like bifilars are definitely connected in sequence.

- Aaron, Energetic Scientist, Yesterday, 01:15 PM ; capacitance reactance
Try charging up a regular capacitor both ways and see the difference. The WFC will have lower impedance than a battery so less back pressure holding in the charge in the inductors. If the battery is fairly charged, maybe too much back pressure.

Sounds like the inductors you had are too small for battery application but maybe big enough for wfc.

Also, I saw a reference that the capacitance of the inductor should be more than the capacitor.

page 7-9 tech brief ; Capacitance Reactance
Capacitance Reactance is determined by the insulation resistance (Rs+ Re) and Inductance (LIIL2) interacting together during D.C. Pulsing. Dielectric property of water opposes amp leakage (Re) while another property of water takes-on an "Electrical Charge". Water temperature (Rt) (cool-to-the-touch) keeps (Re) constant since amp flow remains minimal.

Plate Inductance (Lc) is Inductance Reactance of Inductor (L1) and Inductance Reactance of lnductor (L2) in series with Resonant Capacitor (140 -170) of Figure (7-6) as to (690) of Figure (7-8). In terms of Component Reactance, **Inductors (LIIL2) should always be larger than Capacitor (ER) of Figure (7-2) in order to maximize amp restriction to enhance "Voltage Deflection"** (SS' - 617a xxx 617n - RR') of Figure (7-4) and, is expressed by :

- Aaron, Energetic Scientist, Yesterday, 01:51 PM ; VIC Pancake? I don't think so!
I wondered if Meyer ever did the flat coil style for the chokes:
"The **Voltage Intensifier Circuit is a bifilar pancake coil** transformer which provides distributed capacitance and inductance to the tube sets in the Cell. Its function is to manage the transfer of potential through the Cell, while inhibiting the passage of current by the circuit."

I see absolutely no proof of this claim. Probably idea for taking advantage of concept but.... That isn't Meyer's words, that is from some stuff posted at: OS:Water Fuel Cell

- PESWiki
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page 6-3
"axially (spiralled) Bifilar wound about core bobbin (502), forming individual spiral-
wrap (inner to outer circumference and being equally-length) coils (501a xxx 501n)
electrically connected in sequential order to form resistive pickup coil"

The resultant **tri-coil configuration (Inductance core 53 - choke coils 56/62 -
primary coil 26 - secondary coil 52), now, allows magnetic field coupling (71a xxx
71n) to pass through both resonant-coils (56/62) and secondary coil (52)
simultaneously when primary coil (26) is pulsed energized by way of incoming
pulse-train (46a xxx 46n)**. In doing so, magnetic flux-lines (71a xxx 7In) are induced
into spiral-wrap coils (505a xxx 505n) to produce inductance coupling (511a xxx 51
In) between each secondary spiral-coils (505a xxx 505n) which are parallel formed to
expanding magnetic flux-lines (71a xxx 71n) ... producing step up voltage potential of
positive electrical intensity (positive voltage potential) by way of inductance /
capacitance interaction across secondary coil-assembly (52) while keeping opposition
to electromagnetic build up to a minimum.

That means PRIMARY, SECONDARY AND BIFILARS (can be) on same core so
they are wrapped around a core and not flat style. At least in this description. The tech
brief is a compilation of just about all his chronological events.

7-4
The circular-spiral turns of wire (forming parallel electrical surfaces) is separated by
an Insulated Dielectric Coating Material which forms a series of capacitors (Cda xxx
Cdn) when magnetic flux-lines (619a xxx 619n) produces Electromagnetic Coupling
Field (621) during pulse on-time (Tl), as illustrated in (640) of Figure (7-3) as to
(690) of Figure (7-8).

10-2
The resultant Amp Inhibiting Circuit Figure (10-1) as to Figure (10-3 A/B) further
allows amp restriction (minimizing current leakage) to be continued even if applied
"Voltage Amplitude" is increased. The length and diameter size of the copper-wire
spiral wrapped coil **(56/62) of Figure (10-1) being paired together and electrically
energized in conjunction with applied Voltage Pulse-Frequency** determines how
much "Amp Leakage" will occur across capacitor Gap (Cp) while "Voltage Pulse-
Potential" (Va xxx Vn/49a xxx 49n) of "Opposite polarity" (B+/B-) is/are allowed to
be applied across "Electrical Voltage Plates" (Voltage-Zones) (66/67). To reduce amp
leakage still further, the copper wire of both Resonant Charging Chokes (56/62) can
be replaced with an magnetically ~ductive stainless steel wire (430F/FR) having a
resistive value (Ohms) to the flow of electrons while taking on the capacitance and
inductance characteristic of a coil wire. VIC Bifilar Wrap Coil-Assembly (10-3B) and
VIC Dual Coil Wrap-Assembly (10-3A) both utilize either "E"& "I" and "U"
Inductance Core configurations to concentrate Mutual Inductance Fields (Rp l/Rp2) in
order to optimize Amp Inhibiting Process (750) of Figure (7-14). "E" "I" core shape
(10-3B) is most preferable since amp spike surge is minimize during repetitive
pulsing operations.

Many examples he gives of primary/secondary and both inductors on same core. NOT

pancake style...so misinformation by anyone who says it is?

When primary is pulsed ON, the magnetic field in the core that is created will cause the inductors to charge instantaneously and NOT just from the + potential moving into the inductors. It will be both. Also the OFF pulse inductive collapse moving forward is NOT just the from the inductors alone but the field created by primary coil turning off collapsing.

I think this is the direction to go... too many references by Meyer himself where all the coils are on the SAME core.
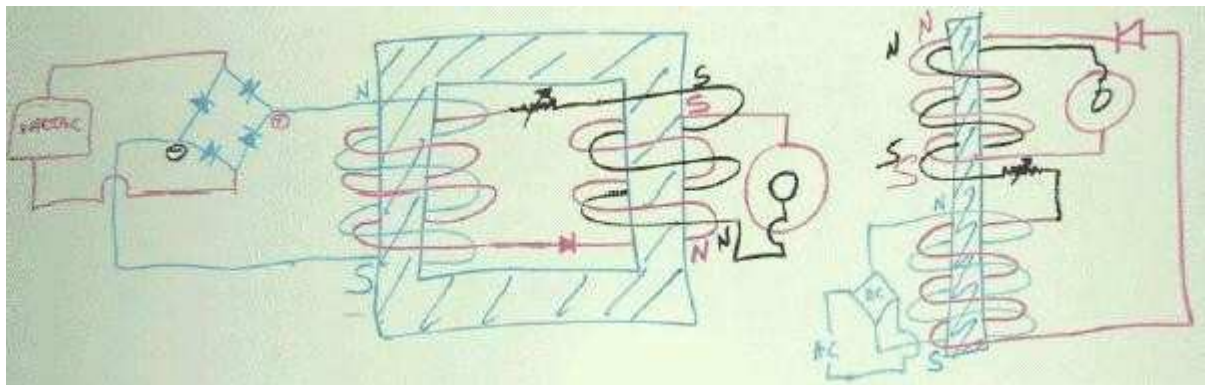
- Aaron, Energetic Scientist, Yesterday, 02:13 PM ; same core
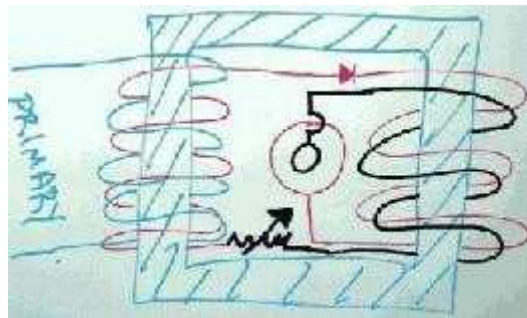
- Aaron, Energetic Scientist, Today, 04:55 AM ; Single Core Layout
This pic shows a literal representation of the unicore concept where the primary/secondary and the 2 chokes are on the same core.

If both are bifilar, then primary/secondary are wrapped together and the 2 chokes are wrapped together.

When + pulses into primary at the top into the light blue wire, the primary coil will have a NORTH field at the top...you can see how the wire comes off the core and are wound that there will be north at top so SOUTH at bottom of primary in this situation.

If secondary is wound together, the BOTTOM wire will need to go through diode to POSITIVE CHARGING CHOKE, which will give a NORTH field at the BOTTOM

of the pos charging choke...like in the square coil.

The right diagram with the pole core is just a visualization easier of what is really happening with magnetic field in core.

Anyway, the charging pos choke will have south at top. The negative choke will have the identical field as the pos choke.

A BENEFIT of this arrangement and the only one that makes common sense is that when the primary is charged with north at top that follows around to the south part of charging chokes and up through the chokes and back to south on primary. so in the SQUARE coil diagram, you see that the magnetic field goes north in the CLOCKWISE DIRECTION.

Not only does the chokes charge from the potential going into the chokes from the secondary, BUT, they also get a kick from the magnetic field of the CORE being charged from primary will will give a BOOST to what is happening in the chokes. THIS AMPLIFIES THE CHOKES.

THIS IS ALL HAPPENING DURING THE ON PULSE.

When pulse turns OFF, charged chokes collapse in SAME DIRECTION because of blocking diode, which is the same thing as opening a switch and disconnecting the chokes there. Therefore, they will find ground in the FORWARD direction to "negative"on secondary.

During OFF pulse, primary also collapses and secondary directs that into the chokes also in the forward direction.

For each time you pay for ONE pulse into the system in this arrangement, you get TWO pulses to the WFC capacitor.
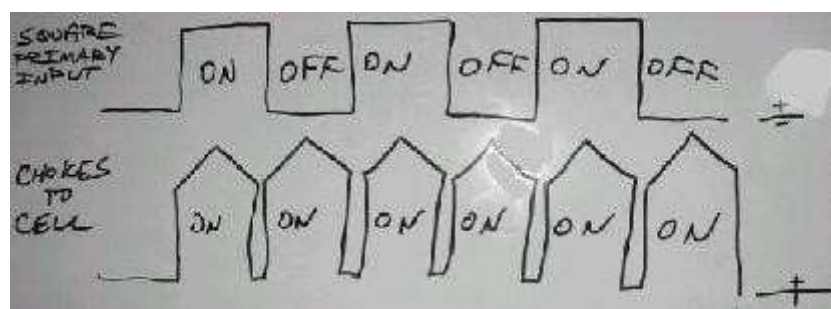
- Aaron, Energetic Scientist, Today, 12:59 PM ; core details
That is a great point about the coil being open in Bedini systems. So, the one on the right with the straight rod core may even be better. Only testing will show.

Kenny, I have not tested any common core systems yet. Just been looking exactly at what Meyer was doing and this seems to be it based on his own words.

If I were to do the one on the right with the straight open ended core, I would

probably start with bundled welding rod...should let go of magnetic field pretty quick. That is all I used in the Bedini coils.

-- <u>Return to the top</u>

Aaron, 25 September 2007, Bifilar Chokes are the Key
<u>http://waterfuelcell.org/phpBB2/viewtopic.php?t=551&start=0&postdays=0&postorder=asc&highlight=</u>

- crux_wfc (Aaron), Posted: Tue Sep 25, 2007 5:11 pm :
First off it's nice to see so many people taking interest in the wfc now, and actually doing experiments. Sorry for not posting as often as I use to, but it is because of a good reason. I have been concentrating solely on the wfc lately and have realized a lot of very important details about the wfc. Sorry if I miss lead anyone to think that I have fully functioning and tuned wfc, but I do not. I am close, dead close, but still not quite there, yet.

Ok, first I am going to start off saying that Meyer's used some energy. **Meyer's states in the tech brief that he uses 12Volts@3.3Amp =40w on the primary side of the step up transformer, and at the wfc he is using 40kv@1ma=40w, so <u>TOTAL POWER USED IS 40 WATTS</u>**. You can also watch **Meyer's New Zealand lecture** to verify this, witch Murray has so kindly embedded in the top right of his web site, witch I think is awesome, because it is Meyer's most informative lectures and gives the most clues on the VIC construction.

Now back to the original topic of my post:
The chokes are what I have been solely working on and still working on. The formulas that Meyer's give in his tech brief are so complex that I still have not completely figured them all out, but I have a good understanding of most of them especially after thoroughly reading the tech brief over and over again.

I have come to the conclusion that **the chokes are the only part of the VIC that restrict the amps and keep the amperage at a minimum even when out of resonance**. When you get the VIC in to resonance simply by tuning the frequency(no need to tune the chokes or cell) the voltage will over come the resistance of the VIC(meaning voltage will go to it's maximum).

I believe this is the most important thing the understand and remember about the chokes; Meyer's states in the New Zealand Lecture and the tech brief that the **chokes are restricting the amperage using MAGNETIC FIELD**, and any amperage that the magnetic field does not restrict the RESISTANCE will!

So now we know that **magnetic field is the big player in stopping the amps** and resistance is the next biggest player in stopping the amps. "Now you have to learn to ask the right questions"(one of my favorite quotes from Stan). So, how do we create the strongest magnetic field? **This is were the bifilar coil comes in** and your knowledge of inductor. I will get in to this in a little bit... So, **how do you increase the resistance of the bifilar chokes and still comply to KISS and the law of economics?** Well, since Meyer's clearly states that **stainless steel wire is NOT**

necessary to increase the resistance you just have to <u>use smaller gauge copper wire</u>.

Ok, now that you know my understanding of the chokes I will go in to more detail about its physical construction. I am not going to give you exact measurements because I have none yet. I am still working on this myself, but I have done some experiments to know that this is correct.

First I will explain the bifilar coil. **The bifilar coil is wired to the wfc so that the coils will be electronically and magnetically oriented in the same direction** (Meyer's states this all over the tech brief). Meyer's has a diagram with the chokes orientation (the dots at the end of the cokes north pole) on **figure 7-1 on page 155 of the tech brief**. I also included a diagram of how you connect the wfc to the **chokes called "NEOGEN BIFILAR with wfc** (this does not show the right physical construction of the chokes just how to connect it)".

Now I will give you guys an idea on how much resistance and what size wire should be used for the chokes. **Meyer's states that 11,600 ohms per choke is a typically enough resistance to inhibit the amps**. I am think about using 44awg wire to construct the chokes. Since **44awg is 2,593 ohms every 1,000ft (11600/2593=4.473*1000=4473) that would be 4,473ft of wire per choke**. Now you might think that is a lot of wire to wind (lol, by hand yes it is.), but if you construct the chokes correctly you should be able to fit it all on, and Meyers states that **the more wraps on the chokes the more voltage you will get out of them**. Now you don't have to stop at using 44awg wire, **you could go smaller but it just get more difficult to work with**. Sound like to small of wire huh? But it's not because we just want voltage not amperage.

Last but not least the physical construction of the chokes. I am just going to point you guys to a couple of figures in the tech brief and just get you a little explanation on them.

First look at **figure 10-4 on page 200**. Figure 10-4 is actually two pictures in one. The skinny black wires are the schematic for the chokes (ignore all label on this schematic for how to connect the choke because it is very unclear and almost misleading). The Picture behind the schematic where the coils are cut in half so you can see the cross section of each section is how the chokes would be physically wound. Keep in mind it is still just a diagram so it is not the actual size of the wire nor the only amount of wraps you can put on each section.

Now look at **figure 6-1 on page 135**. I know this diagram can be really confusing, because you have to look through all of the magnetic field lines that Meyer's drew. This diagram is also when Meyer's was starting to refine his VIC to be compact and to cause instant explosive energy from the water (his spark plug injector), but **it is not necessary to include the step up transformer for just making enormous amounts of gas**, and still possibly causing instant explosion of water. This will give you **a good idea about how to construct bobbin for the chokes**. Notice how close the section are to each other.

Ok, last comment. Because the chokes are electronically and magnetically oriented in

the same direction this means that the positive and negative will be aiding each other and **causing about double the voltage**. Meyer's has a good diagram **figure 10-5 on page 200** of what the voltage is doing at the end of the chokes.

IF THE CHOKES ARE NOT BUILT RIGHT THE WFC WILL NOT WORK RIGHT AT ALL. **AMPS HAVE TO BE INHIBITED TO GET THE VOLTAGE TO GO TO MAXIMUM BECAUSE THE WFC ACTS LIKE A SMALL RESISTOR** MORE THAN A CAPACITOR!

"the VIC allows the water to become a component part of the circuit as resistance" . Hope this helps you guys understand what I have learned. Good Luck to ALL!!!!
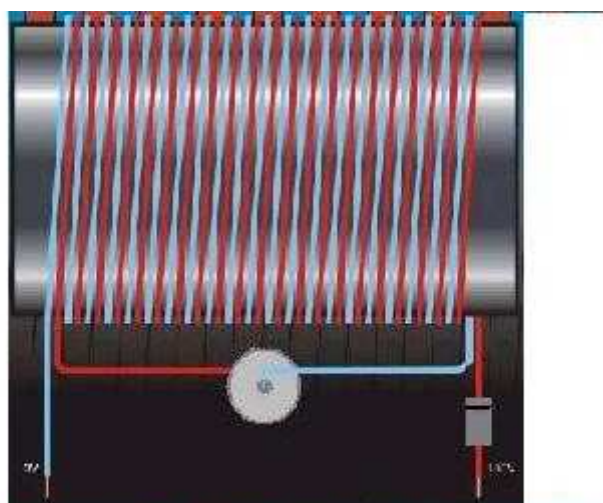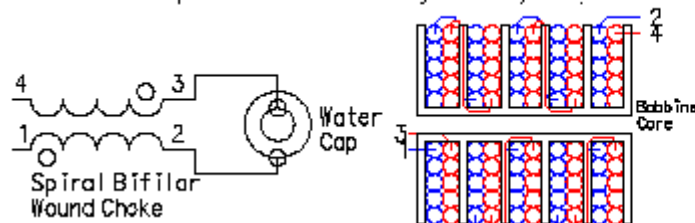

This is how to connect the WFC to the bifilar coil for maximum efficiency and if you have higher resistance and impedance than the WFC you can inhibite Amps flow and allow voltage to go to maximum.
TESLA's BIFILAR COIL DESIGN WITH THE WFC   Aaron Sept 27, 2007

- Stanley_Meyers-Water_Fuel-Cell-Technical_Brief-FULL[1].pdf, 3.76 MB (the all 11 Memos) : http://waterfuelcell.org/phpBB2/download.php?id=440

- this is a very good schematic of the chokes and electronic reactants minus the resistive properties. By JH:

original : JH-BifilarSpiralChoke.pdf, 18.36 KB :
http://waterfuelcell.org/phpBB2/download.php?id=442

Hi Gary, The definition of 'resonance' that I like is Tesla's definition of resonance and it is this resonance that applies to these devices: **The frequency at which the least amount of current is necessary**.

Basically, the whole circuit is SYNCHRONIZED for optimal performance. When the circuit is in resonance, everything is synchronized optimally. Has nothing to do with the common idea of a resonant circuit. This includes every single component in the whole device ... everything from the initial input to the water cell. Same applies to the battery charging device I'm talking about.

By 'regular electrolysis', I meant that it sounds like the gunk is coming from common current electrolysis. Not implying that there is an uncommon electrolysis. The most current test I did, I used a variable AC which has a 5Amps max and 150V max. Output through bridge and pulsed DC through a diode and that straight to my tube setup. This was only to test the cell. Without the inductor, current of course jumped up to 3-4Amps at only about 7Volts. When I put the inductor after the diode, I could crank it up to about 25Volts and the amps were only as low as about 400-500milliAmps. Just had to see for myself that this was happening.

Not charge batteries to overunity, but compared to the input joules and the work in joules I get out of the battery after it is charged ... it is overunity! Nothing magical about it. It is because it is being charged with voltage potential ... virtually no current is leaving the input source, only voltage potential. I can explain more details soon. The battery can be charged with wall AC or from another battery. Before the input battery dies (which it will at 98% efficiency), you can charge at least several batteries of the same capacity. That is because it isn't taking power from the first battery and putting it into the secondary batteries. The input battery is ONLY sending a trigger pulse to a transistor that self oscillates at hogh frequency pulsing an electromagnetic coil that is a 1:1 ratio and the reverse wire catches all the potential spikes (NO CURRENT) and puts it into a capacitor. When the capacitor is up to a high enough voltage potential, it is dumped to a battery needing charging. You charge the battery with all that potential energy and NOT with current. Sound familiar with Meyer's circuit doesn't it?

Imagine this and you can all test it for yourself. Hit a capacitor at high frequency with nothing but the voltage potential spikes and it WILL charge up, however, there is no current moving. Sounds strange but I can go into details later. Just thry it and you will see. How can a capacitor charge up without current? That is what you're all trying to do with the water cell. You're charging it with pure voltage potential and NO current. Imagine having an input that is voltage potential spikes as well and no current ... very very very efficient! I will share schematics soon.

I'm talking about pure radiant energy. Radiant energy ARE the voltage spikes you make. Those spikes are radiant energy with NO electrons. There is a small amount of current in these systems and that little bit is just enough to rip the molecules apart and it is pulsed so there is no steady current. On the collapse, all those molecules have

access to a sea of potential radiant energy that have been pumped into it.

the radiant energy comes from vacuum energy. The virtual photon flux of the quantum mechanical vacuum. The dipole (battery, etc...) breaks the symmetry of the virtual photons and they move towards the pole on a battery and flow over the wire. The power to power a lghtbulb from a battery does NOT come from the inside of the battery. The electrolytes do ONE thing and ONE thing only. Separate thair internal charges to create a high and low potential at the electrodes. It is the vacuum energy form 3d space and time that move toward the electrodes and over the wires. This flow is what induces the electron movement to have current. That flow can be manipulated to move over wires in a way that induces NO electron movement, therefore there is NO current, only voltage potential moving over a circuit! Very exciting!

Meyer's is an overunity system. If you calculate joules of energy that went into the system, that would be input joules. If you calculate the joules of work that a certain amount of produced gas can perform, it will dwarf the input joules. This is overunity, he isn;t going to come out and say it but it should be obvious to everyone. Hope this helps.

In a following post, page 19: ... I am confident though about the concept of what Meyer was doing. Pumping radiant potential into the water with no current or at least a bare minimum. 4,798,661 patent has the schematic that is nearly identical to the one used for battery charging.

The coils I'm using are 1:1 turn. 12Volts in and the collapsed pulses are nothing but pure potential spikes of about 250-300 volts but virtually no Amps. Those are going through a bridge to charge a cap. When the cap is charged up, it is discharged into dead batteries. How can that be if the turns are 1:1? 1:1 is the most efficient coil for producing the radiant spikes that are devoid of electrons. ...

(MDG no07: I remember reading about Stanley Meyer that met with John Bedini in the 80's. Off course being in the same country, working both in the small world of 'exotic' energies, it was easy for them to come to discuss about the subject ... Bedini was and still the leading expert that practicaly harnesses Radiant Energy in many ways, and I wouldn;t be surprised to discover that he taught a few tricks to Meyer, and that may explain the confusion in the differences of processing between patents of Stanley. Could it be possible that first he used the 'potential breakdown level' of his capacitor/cell, and then after getting breefing from John, he improved his system to harness Radiant Spikes. Also, his third stage of improvement, the 'Nuclear Thermal Energy', could come from meeting with David Hudson that discovered the ORMES, also in the 80's, that are present everywhere, especially in water, and that have a potential of nucleus explosion, through the 'maximum chagre breakdown level' known to exist in superconductors ... too much energy accumulated inside and they explode in a nuclear blast, as Hudson discovered... But have to say that this explosion produces dangerous gamma rays, when Meyer said there were none of them produced in his technology)

- qiman13, Posted: Fri Sep 10, 2004 3:31 pm Post subject: Secrets of the Water Cell Explained!!!:
Hi Everyone, new to the board but have somethongs I want to bring to the surface. Below was posted in Dave's Cell folder. I added more below that.

Hi Gary, what material is your plates or tubes made from? I use t304 steel tube setup and I get no gunk. The only thing that even appears to corrode are the non ss leads that connect to the positive tubes.
Also, if getting gunk, then most likely you are getting too much regular electrolysis. The idea is to **prevent current** from doing that. Therefore, **no oxygen can go to your positive plates/tubes and oxidize them.**

I'm new in the group and would like to tell you that **I have a circuit virtually identical to SM's**. It was developed by someone that **I have learned from over the years. It isn't used to make fuel from water but is used to charge batteries overunity**. I can post the schematics soon as appropriate. I also have other info to share if you're interested.

The circuit is not a resonant circuit. The water doesn't go into some magical resonance. **The blocking diode should be telling you all something**. No resonance (at least not the circuit). **The voltage never drops to negative.**

What is the difference between a transverse wave and a longitudinal impulse?
http://www.gmi.edu/~drussell/Demos/waves/wavemotion.html
and http://www.glenbrook.k12.il.us/gbssci/phys/Class/sound/u1l11b.html
and http://www.glenbrook.k12.il.us/gbssci/phys/mmedia/waves/lw.html

3 very good basic examples. **Unidirectional DC pulses are not transverse waves**. They are longitudinal impulses. **The whole secret is sending TIME IMPULSES to the water**. What the goal is is to **pump the water with radiant energy**. This is **nothing but pure voltage potential** with no current. When it is done right, **you can create the voltage potentials without ever inducing electrons to flow to begin with**.

How? We'll get to that. Imagine not having all the problems of having to restrict amps. I will be happy to share this with anyone who is serious. Let me know what you think.

I've observed in this board some comments I would like to comment on. I saw that someone mentioned that Meyer was flawed in saying the inductor increases frequency. That isn't a flaw, of course it increases frequency when a pulsed input is put into it and there is a blocking diode. One pulse is given and it goes through the

blocking diode, charges the inductor and gets to the cell with less amps. That is one pulse. When the pulse is cut off, the inductor collapses in the SAME direction because the blocking diode prevents it from going opposite polarity and this is pulse #2 going to the cell. You paid for one and got 2 pulses.

For example, lets just stick to straight wall cycle. 60hz going into the bridge to turn it into pulsed dc will be 120hz pulsed dc. Remember that there is one dc pulse for each half othe ac. 120 hz pulsed into the inductor will get 240hz at the cell. So, the freuency is increased by using the inductor. Of course we want higher frequency than this, but this is only for an example.

The secret is pumping radiant energy into the water and this puts it into a higher energy state. You're swelling the water up with the Aether.

Each time a coil is given a pulse, there will be a certain volt and amp over a certain time. When the pulse is shut off, the collapsed SPIKE is pure voltage potential with no current. That is why it is virtually a straight line.

You're converting work back into potential. The spike is time compressed energy...pure Aetheric potential or radiant energy. Think about it...you're turning work back into potential. It is the radiant potential that you are wanting to pump into the water unidirectionally.

Frequencies are important but that is a case by case situation. Based on cell spacing, material of it, voltage, etc... there will of course be optimal frequencies for each system and they will all be different. It has nothing to do with a magical frequency that water will mysteriously separate at. There are frequencies that can do that but that isn't what Meyer was doing I don't believe.

It is essential to understand what energy is and that energy is NOT the capacity to do work, what electricity is and to realize that there is no such thing as electricity...electricity is truly an adjective to describe an event...where the source charge comes from and for example if you power your system with batteries, the charge does NOT come from the inside of the battery...it is important to understand what a dipole is and how a dipole gets a flow over wires. It is a myth that we don't know where the source charge comes from. These things are really necessary to duplicate something but if you understand the above and a little more, it will be overwhelmingly obvious what Meyer was doing. It is obvious he didn't know but he still got results.

The patents are there to give the concept, not the actual working model. Same as the xogen patents. It will not work using the exact same circuit and input of 12v, etc... that shows the concept of what they are using but that doesn't mean their working models are that same circuit.

For example, the battery charging method I'm using for overunity gain...this is how to measure it. measure the joules of input energy from the input source over a given time. When the battery is charged, power a resistive load (light bulb) from it and measure the joules being used to light that bulb until the battery is back down to the voltage that it was before charging. The joules will be more than what left the input

source. This is overunity. Hundreds of % in fact and up to a few thousand is possible without a doubt.

This is what the fakes out there want you to measure: Well lets measure the input and hook meters to the output of the circuit and measure that hundreds of volts, etc... that is all BS. The ONLY honest way to test this kind of thing is measuring WORK. Measure work in and then measure usable work AFTER the battery is charged. You can't directly measure potential like this with devices becaue there aren't any devices that can measure pure Aether. The devices we use .... and this is important... only measure wasted energy. They all want to hook the output of the circuit back into the input source (battery) or whatever and have it run itself. That is ridiculous...that closes the loop and kills the dipole. Anyway, this is my 2 cents.

There is one book that spells out word for word what Meyer's is doing, what Gray did, etc... that is chapter one on Tesla in this book:
http://www.amazon.com/exec/obidos/ASIN/0932813801/yokotahighschool
That book was used as a Rosetta stone to cracks Grays patents and therefore revealed some of Teslas secrets.

- qiman13: Posted: Fri Sep 10, 2004 4:58 pm Post subject: correction:
I meant to say that it is NOT necessary to know about what a dipole is, etc... to make the things work. It is only necessary to easily see what Meyer and other were doing.

- Murray, Posted: Sat Sep 11, 2004 3:04 am Post subject:
Hi Qiman, I converted the international news release briefings by Stanley A Meyer on the water fuel cell to PDF and laserline has uploaded them for all to see. thanks mate:
http://www.icubenetwork.com/files/watercar/non-commercial/stanley_meyer/
worth a read. Murray
Imagination is more important than the knowledge. The knowledge is limited and the imagination is not. (Albert Einstein)

- Murray, Posted: Sat Sep 11, 2004 4:34 am Post subject:
I thought this was interesting and has some relevance. refer to links :
http://www.geocities.com/CapeCanaveral/Lab/5322/ind-kick.htm

Quote: It is possible to step-up voltage without using a transformer. The property of an inductor to build up a high counter-electromotive force (cemf) can be used to flash gas discharge tubes and light neon bulbs and small tubes from very small batteries. All you need to do is connect a fairly large inductor (.5mH or higher works best) in parallel to the bulb or tube and then attach the inductor to a square wave pulse generator. The result should be the tube or bulb glowing, sometimes very brightly depending on the inductor used, the input voltage/current, pulse rate, and the bulb or tube characteristics. It is important to have the neon bulb, etc. lighting, if it doesn't the cemf will come back to the output transistor and possibly ruin it. When the bulb is glowing the gas is a low resistance, therefore shorting the cemf. The bulb or tube you use will also protect the rest of the circuit. For the pulse generator, a low frequency 555 timer circuit or signal generator will do. Experiment with the inductor, I have gotten neon bulbs to give off almost white light.

also this is some good info on the dc resonate charging circuit :

http://www.richieburnett.co.uk/dcreschg.html#resonant
I am with you! and have came to very similar conclusions, now we just have to prove it. Murray

- Gary, Posted: Sat Sep 11, 2004 8:57 am Post subject:
Hi Guys, that "richieburnett" link above in Murray's post explains the dc resonant charging circuit very clearly, leaving no room for misinterpretaion at all.

Qiman, you can see that the frequency is NOT doubled, but the dc supply voltage across the capacitor is! You can see what Meyer was trying to achieve with this, doubling the supply voltage pulses while the inductor naturally limits the current - it even shows the step charging sequence. This explanation of the circuit is far, far better than anything Stan ever wrote in his wild babblings.

The blocking diode simply serves to stop the capacitor discharging in the opposite direction through the inductor once the capacitor is fully charged.

As I see it, the flaw with this circuit when applied by old Stan to his wfc is that of course, the wfc is NOT much of a capacitor, more of a resistor.

Pure water makes a great dielectric, with a dielectric constant of around 80 and a breakdown voltage in the order of thousands of volts per mm, but tap water conducts very well as we all know. Just 240v mains provides a very healthy current - or unhealthy if you happen to be in the bath when the hair dryer drops in!!!

Having said all that I intend to play about with the dc resonant charging circuit and do some proper tests as it might be there is enough of a capacitance to still provide a substantial step charging effect. I don't really expect this to be the case tho as the resistance offered by my electrode set up is at best much less than 1 ohm!

However, I find that putting things actually into practice often throws up info, ideas and insights that don't always reveal themselves on paper. All the best

- qiman13, Posted: Sat Sep 11, 2004 1:40 pm Post subject: What a dipole really is:
Gary, I can understand your explanation of charge carriers, etc... Let me ask you this...when you measure voltage...what are you measuring? Electron charge or voltage potential? They are two totally different things.

First of all, where does the source charge come from? Isn't that the big mystery with "electricity?" We all are told and we can all observe what this mysterious charge does but no textbook can explain where it comes from?

I believe it is cruicial to understand what a dipole is. Of course it is something with two poles. If the poles have a balanced potential, there is no movement possible. I think we can agree on that. If one potential is higher and one lower, then there is obviously movement capability. I think we can agree on that too. Now, lets look at the most common dipole that we use all the time. A battery.

It is claimed that the electrolytes in a battery create some chemical reaction that

produces an electrical charge and this electrical charge is what goes out of the battery and over the wires and powers whatever is connected to the battery. This would of course be a bare bones explanation of what a battery is. Is this really what is happening?

It is important to understand what the Aether is. Michaelson/Morlay spelling?? have already been disproven long ago. They have also been proven to have miscalculated what they were doing when they "proved" there is no Aether, which is absolutely ridiculous. So in fact, there is an Aether just as Einstein predicted. In fact, the Aether does exist as Tesla knew way before and at a much higher level than Einstein ever did.

We know that there is unlimited vacuum energy...infinite potential available in 3d space and time. It is everywhere and we are immersed in it like a fish is in water. When I say vacuum, I'm not talking about a tube with atmosphere sucked out. All space is literally the vacuum. It is a misleading word because it causes people to think it is empty when the opposite is true. In essence, more accurately, it is a Plenum (having an infinite abundance).

Mathematically, E.T. Whittaker showed in 1903 the unlimited potential available. In conventional physics/math, what they all show the potential to be is this: take a cup and scoop out a cup of water from a flowing river in a moment in time. That is what they call the potential? That is totally nuts! What about the rest of the infinite river? That has caused so many problems it isn't even funny. The basics of these physics and math are so fundamentally flawed, they are useless when dealing with devices that do no operate according to manmade self-proclaimed "Laws."
http://www.cheniere.org/misc/Whittak/ORIw1903.pdf

Now, we are immersed in a sea of energy...then what? This sea of energy is filled with virtual photons - called virtual because as soon as they are there, they instanly dissapear. So they are in a state of flux...popping in and out and ridiculous speeds. Perhaps they are traveling like a mobius strip..1/2 here and 1/2 there, whereever that may be. Anyway, by the fact that they have a positive charge, there must be a virtual negative charge as well for obvious reasons. How do we tap this energy? We do it all the time and don't even know it.

When you have a battery with electrolytes, the electrolytes do ONE thing only. That is to separate internal charges so that + is on one side and - is on the other side. Each terminal on a battery is connected of course to each side of the electrolytes by connections. The terminals will be + and -. That is a potential difference and that is what makes a battery a dipole. The electrolyte charges that were separated are NOT the charge carries of some mysterious charge that goes out the battery to power something. That is a myth. They only establish a dipole.

Now that we have a dipole, then what? The vacuum energy is very symmetrical in nature. Pretty much the same throughout in all directions (generally). With a battery - a dipole - sitting inside of 3d space and time where this Aether or vacuum energy is, the symmetry of the photon (different from regular light photon that we see) energy is broken. One polarity of the Aether goes to one pole and the opposite to the other pole. If nothing is connected to the battery, the Aether radiates outward spherically in all

directions at the speed of light.

If a light bulb is connected to the battery, you close the circuit. The Aether at the + terminal flows over the wire towards the - terminal and induces the electrons to flow that pile up at the filament of the bulb and turn to photons that radiate out as light. There is ALSO the opposite polarity flow that goes out the - terminal towards the + terminal butting heads against the flow. This is what breaks apart the electrolyte charges so that the strength of the potential difference of the electrolytes get less and less. This is what kills the battery because the loop was closed and the circuit is caused to kill its very own dipole. It was not killed because some mysterious charge was used up in the battery.

This flow is called the Poynting flow usually designated a j-phi I believe. Heaviside also knew of this flow but he actually got the vectors right. I'm please to see that Dave understand Heaviside. Also, the amount of flow that goes over the wires...only 10 to the -13th power (1/11trillionths) of it gets diverged into the wire to move electrons to the surface from the copper atoms 3rd electron field. Imagine that!

Every atom is literally a perpetual motion device. Where do you think the electrons get the energy potential to sustain their perpetual motion? Look at the mass of the electron, it sure wasn't given some incredible push that keeps it in motion. It is sustaining by interacting with the Aether.

Once something is set into motion, it will stay in motion unless it is acted upon by something else. This literally permits perpetual motion.

It never said that once something is in motion that it will stay in motion until something acts on it, which most definitely will happen.

Anyway, overunity doesn't have to have a single thing to do with perpetual motion. Anyway, That is where the flow comes from to light a light bulb and NOT some charge carriers inside the battery. I don't blame you for your explanation of that because that is in fact what is taught. Does that mean that they are correct? They first tell you that is what holds the charge and turn around and tell you it is a mystery where the source charge comes from.

Take a bathtub, fill it up and put a plug in the hole. It is all nice and symmetrical. pull the plug...make a potential difference and the water goes towards the hole and down the pipe. You broke the symmetry of the water. This is EXACTLY where the battery gets its source charge from except not a pipe..flowing over a wire at light speed while the electrons that are induced into movement only move at inches per hour literally!

You can read Lee and Yang's presentation speech as they were given the Nobel Prize in Physics in 1957. http://nobelprize.org/physics/laureates/1957/index.html
"for their penetrating investigation of the so-called parity laws which has led to important discoveries regarding the elementary particles"

It is because of their work that we understand that a dipole breaks the symmetry of the Aether. That is where the source charge comes from and not electrons.

The Aether moves like a gas under pressure. It is a conductive gas that is conductive to + and -. If you have a battery and you put a voltmeter on it, you get a volt reading. 12vdc for example. That reading has nothing to do with a charge in the battery. When connecting the leads to the meter, the Aether flows to the terminals and over the wires on the meter and that induces electron flow in that circuit. You are literally taking a pressure reading of the gas. Voltage is nothing more than the pressure of the flow of the Aether over wires. It has NOTHING to do with electron charge.

To clarify, a battery can be charged with hot current..electron current and you will have electrons piling on plates. You CAN also charge a battery in a superior way by charging it with cold current, which is void of electrons. This is a fact. The battery never warms and either does the circuit charging it.

Likewise, you can charge a cap with hot current or electron flow and those pile on the plates. Depending on the potential difference between the plates because of the electrons you will get a potential difference. That is true.

However, you can charge a cap with "cold electricity", which is void of electrons by spiking the cap with PURE VOLTAGE POTENTIAL and NO ELECTRONS and the cap WILL charge up. The pressure of the aether here is what is measured when using a voltmeter. It is not measuring a potential difference between plates on the caps based on electrons on one plate. You can charge the cap both ways. One, you will have a cap that will be warmed up and one will be room temp.

Think about this. You have a little bitty battery and you have a monster battery. They obviously would have an enormous difference in the amount of charge if it was like the establishment teaches. Both batteries can read 12volts brand new. Therefore, it is not really measuring a charge at all because if it was, the bigger the battery, the bigger the charge and the reading would be higher. We know that is not the case.

I hope this clarifies what voltage potential really is and what a dipole is and what the voltage is NOT. This understanding jeopardizes oil money as it has all along. Remember, Morgan said to Tesla...that's nice Mr. Tesla, but where do we put the meter? They want everyone to believe energy must be a non-renewable consumable and have everyones mindset tuned to scarcity and lack of instead of abundance.

- qiman13, Posted: Sat Sep 11, 2004 3:46 pm Post subject: inductor frequency: My understanding may be off on this. I'll put a scope before the blocking diode and check the frequency and put one after the inductor. I guess that will be the easy way to really tell what the difference is in frequency if any at all.

If the frequency is not increased after the inductor, that means the collapsed field is seamless with the initial applied pulse. I find that hard to believe but maybe that is what is happening.

If that is what is happening, that means there may be a steady DC flow to the water cell and that means that no matter what frequency you put to the water cell, there will be only steady dc if the inductor is not giving a separate pulse on the collapse. If it is seamless.

Another possibility is that on the applied pulse,the water gets hit. When the pulse is off, the inductor collapses seamlessly at the end of the initial pulse so the pulse given to the water is longer than the initial pulse by itself and the voltage goes up. When the collapsed pulse is done, then another applied pulse comes and does the same thing so the frequency wouldn't increase but yes the voltage would.

- qiman13, Posted: Mon Sep 13, 2004 1:57 pm Post subject: inductor test:
Gary,
I read page 1-1 in Meyer's book. First line "Using VOLTAGE POTENTIAL." I think nothing else is necessary to read in that book. Iwill though. That is the whole secret. That is time impulses, which are unidirectional dc longitudinal impulses. That is what POTENTIAL is. All his info is only about how he is creating voltage potential to pump into the water. If you know what voltage potential is, you got it.

If electrons pile on plates and this makes the difference between the other plate and this is what the voltage is. Please explain this. With X amount of volts and X amount of amps going into the water cell, you're going to get X amount of electrons piling on one side. However, when putting an inductor after the blocking diode, you can get a higher voltage with less amps. The inductor reduces the electrons in the cell but the voltage can be higher?

The voltage is not directly tied to electrons on the plates. Doesn't this simple thought experiement show that voltage doesn't have to have anything to do with a certain amount of electrons on a plate that has a certain socalled "charge?"

On page 1-2, Meyer says the LC circuit "tuned" to resonance @ certain frequency... This doesn't have anything to do with LC resonance. This is what he means: Based on a given cap and a given inductor, there will be a certain frequency that the whole system will operate at "peak effieiency" meaning that at that frequency, the minimum amount of current is used meaning the minimum amount of electrons. That would be EXACTLY Teslas definition of resonance. For a given cap and inductor, there will be a frequency that minimum amount of amps is used. To see what the resonant frequency is for a given setup. Monitor amps input.

Turn the frequency up and down. Whatever frequency the amps is at minimum going to the cap from the inductor, that IS your resonant frequency and will be different for everyones setup.

- qiman13, Posted: Mon Sep 13, 2004 2:50 pm Post subject: inductor test:
I got results that were unexpected. The frequency was not increased after the inductor that I used. The interesting thing was that the voltage remained identical. However, it was negative spikes on the output of the inductor of the same voltage.

Aaron/Qiman13 youtube video added on September 06, 2007, 4.04 minutes, **'WFC White Powder Coating from Conditioning':**
http://youtube.com/watch?v=Rx2uEsbTt8Y

- **comment 1** by overunitydotcom (http://youtube.com/user/overunitydotcom) : Qiman, many thanks for this very intesting video, all please also come to: overunity dot com/index.php/topic,3265.0.html to discuss this topic. Many thanks. Regards, Stefan.
- **comment 2** by qiman13 (http://youtube.com/user/qiman13) : forgot to mention in vid but during conditioning, I set the variac at certain setting. I monitor volt and amps hitting cell. over couple hours voltage is about same but amperage drops by couple hundred ma's and gas production is same. So this shows that there is little by little more resistance to current over time. that is why amps drop backwards from more calcium coating.
- **comment 3** by qiman13 (http://youtube.com/user/qiman13) : To speed up this conditioning process, I'm going to add calcium hydroxide. You can get it at pet/fish stores for adding calcium for marine life. It may be known as "kalkwasser powder". It is also known in hardware stores as "hydrated lime" or "slaked lime" or just "lime." I'm going to add some and run some good amperage through the cell to see if I can get a thicker coating faster. Once it is to my satisfaction, then I'll switch to the voltage potential circuits.
- **comment 4** by qiman13 (http://youtube.com/user/qiman13) : I used tap water from my kitchen sink and no added electrolytes. If you look in the bottom of a hot water kettle, you will see quite a bit of white scaling. That is calcium and other minerals.
- **comment 5** by qiman13 (http://youtube.com/user/qiman13) : yes, there can be where the gap gets too small. in normal electrolysis cells where sea water for example can be used, it builds very, very, very thick. then you have to add a "precipitate" to knock that stuff off. then it is ok. when using higher amps, you really get the coating

desirable to get a good coating. then switch to the voltage potential circuits without current and you won't have the amperage to cause more coating so you're good to go.
- **comment 6** by qiman13 (http://youtube.com/user/qiman13) : there may be some but with only voltage potential it builds so slowly that shouldn't be a problem for a long time. if it is ever a problem. just switch polarity on cell for a bit and you will see the cathodes (used as annodes positive when switched) will repel the calcium oxide into the water and you will have lot of white flakes floating in water then the settle on the bottom. just do long enough to get the layer down to desired thickness. then switch polarity to normal and good to go.
- **comment 7** by qiman13 (http://youtube.com/user/qiman13) : that is the BEST way to reduce thickness if that is ever a problem. I have done this just to see what happens and the coating will repel.

H2EARTH REPLICATION of Stan MEYER Electrolysis: (page created at November 2007 Update)

Stan Meyer Cell by David L. Wenbert from H2Earth.com, interviewed by Sterling Allen, at
http://peswiki.com/index.php/Video:David_Wenbert_on_Water_Fuel_Cells_and_Electromagnetic_Overunity_Similarities

David Wenbert on Water Fuel Cells and Electromagnetic Overunity Similarities

INTRODUCTION: On August 27, 2007, as part of the PES Network Free Energy Now http://freeenergynow.net radio series, Sterling D. Allan http://peswiki.com/index.php/Congress:Member:Sterling_D._Allan conducted a 1-hour interview with David Wenbert http://peswiki.com/index.php/Directory:David_L._Wenbert with H2Earth Institute http://H2Earth.org regarding his work with Water Fuel Cells http://peswiki.com/index.php/OS:Water_Fuel_Cell , and his theory that the "over unity" being observed in various electrolysis http://peswiki.com/index.php/Directory:Electrolysis set-ups is closely related to the reason for "over unity" being observed in some electromagnetic http://peswiki.com/index.php/Directory:Electromagnetic set-ups.

- The following transcription and video were prepared by Matt Imber. (Complete transcription in .doc format (for Word), 15 pages, 96 ko, is available from this link: http://www.pureenergysystems.com/news/Radio/Free_Energy_Now/shows/2007/Transcript--David_Wenbert--Water_Fuel_Cells_and_Electromagnetic_Overunity_Similarities.doc)
- The Audio file of the interview, MP3, 13 Mo, at http://pesn.com/Radio/Free_Energy_Now/recordings/2007/070827_H2EarthWaterFuelCells_DavidWenbert.mp3

Our guest today is **David Wenbert**. He is the **Founder and Executive Director of the H2Earth Institute**, and has been involved with advanced research for **more than 20 years in energy research**. H2 Earth Institute is in the process of **replicating the water fuel cell technology of the late Stanley Meyer, who ran vehicles on water, and whose patents have just now become public domain**. Mr. Wenbert is now in the Washington D.C. area and is developing the H2Earth Institute and the companion

Trade Association for the emerging water fuel industry. In particular, he has a theory or concept that these **over-unity electric systems have a tight correlation to the over-unity electrolysis systems that are being observed**, that he's been involved in founding.

- **Sterling Allan**: [...] hundreds if not thousands of people have replicated what appear to be over-unity electrolysis scenarios, where they're getting more energy out than what traditional electrolysis equations would say is possible, and apparently, there may be some tapping into zero-point energy or some other energy source in the process - and you're saying that this over unity observed in electrolysis - and you've been heavily involved in an open source project tool, to publish plans of how to do these things as Stanly Meyer's plans and others, and facilitating this massive proliferation of the replication of this effect. But you're saying that this is quite similar to what's going on with the over-unity electromagnetic systems.

- **David Wenbert**: Yes, the Hearth Institute has formed a group over **60 research associates in 16 countries** around the world. These researchers have all been replicating the Stan Meyer Water Fuel Cell - the **patents on which expired June 26th (2007)**. We've had a number of successes; **our members have been producing gas at down at 1 ½ watt hours per liter and down below that -- 0.38 watt hours per liter. Anything below 2.4 watts hours per liter is over-unity**.

- **Sterling Allan**: According to Faraday's equations, right?

- **David Wenbert**: Yes, and the water fuel cell is a lot more complex than it seems. There are many processes going on within it at the same time. Many people have been confused by the way Stan Meyer referred to the use of resonance as the mechanism that splits the water. **It's not a molecular resonance in the way most physicists or chemists would refer to it**. It's more of **an electrical resonance between the resonance charging choke coils on either side of the water fuel cell in the circuit**. And we've found that the way those coils interact is virtually identical to the way the coils in Tom Bearden's motionless electromagnetic generator interact. And we've traced this further, and it appears pretty conclusive that **the electrodynamics that are happening within the water fuel cell in Stan Meyer's circuit, are the same that are observed in not only Bearden's, but Joseph Newman's energy machine, John Bedini's motors - it's all the same**. [...]
[...]
- **Sterling Allan**: For the sake of those who are sitting at their computers listening to this right now, or through the archives, let's give out your website domain name.

- **David Wenbert**: It's actually pronounced Hearth, the Hearth Institute is: www.H2Earth.org
[...]
- **David Wenbert**: [...] Dr. Peter Lindemann, I think made a major contribution to this field with his book: Free Energy Secrets of Cold Electricity. It's really a detective story, where he went back and found the connections between original works by Nicola Tesla - which had nothing to do with Tesla's more well-known contributions like A.C. current and so forth. But some of Tesla's lab notes referring to radiant energy and electro-radiant events that were anomalous, and didn't fit in with any of the rest of electrical theory, but were reproducible. Dr. Lindemann then traced that to

the work of E.V. Gray and the Gray Motor, which definitely employed the same mechanism -- and then, traced that further to Stan Meyer and the water fuel cell. And the more we look at Joe Newman and John Bedini, and a hundred other inventors out there - it's the same circuit, it's doing the same thing. These are not different devices. And Dr. Lindemann and Tom Bearden, in his book Energy From the Vacuum, I think -- just in the last few years -- are really bringing this together - to coalesce to the point where industry can pick up this technology and begin turning it into profit.

[...]

- **Sterling Allan**: At the recent extraordinary technology conference, by **Tesla Tech in Salt Lake City in July 26-29 (and this is the year 2007** for people who are years ahead of us, listening back, years behind), anyway -- Peter Lindemann was there with a demonstration of a number of circuits that he's come with that are actually **very similar to the Bedini circuit, but don't involve the Bedini patent**. And he has actually published those, and that's a story I've been sitting on and need to get around to. I've been procrastinating a little bit, because it's hard work to pull together something like that in a comprehensible way. But he has done similar work in **showing some very amazing electrical phenomena that go far outside what classical physics describe in text books**, and which can make motors so much more efficient, so you're not fighting back EMFs, you can actually **use the back EMF's**, and get more mechanical output from your motor using much less energy. And he has not published a complete set of plans about how to build an over-unity motor, but he says if you piece together what he has out there, you can do it, he's just not going to tell you how to do it.

[...]

- **David Wenbert**: Exactly -- we call it the IDU, or **Irrefutable Demonstration Unit**, and it will consist of **a 3 kilowatt portable generator - just an off-the-shelf Honda generator, running itself off of a water fuel cell. And the water fuel cell will be plugged into the 10 amp (12 volt, 10 amp) DC auxiliary circuit. So, it won't even be running off the AC**. And we should be at that point in the next few months - it's just a question of building a final cell that incorporates everything that we've learned so far. Our findings to-date are generally posted on that page (at http://www.watercell.info), and if you look at the bottom of that page, there is a graphic showing the input waveform that the water fuel cell requires (from Stan Meyer), and above that, some oscilloscope tracings of the output waveform of the Joseph Newman energy machine. And you can see at a glance that they are virtually identical.

[...]

- **David Wenbert**: Anyway, that was the first clue, but since then we've found several others. For example, if you go to Tom Bearden's book: Energy From the Vacuum, on Page 401, there is a diagram of the MEG coil assembly (Figure 7.5 on Page 401). Well, that image is virtually identical to the voltage intensifier circuit in Stan Meyer's documents.

[...]

- **David Wenbert**: Now, I don't think the word water appears anywhere in the 900 page book by Tom Bearden, and I don't know if he ever talked to Meyer at all. And Stan Meyer didn't have the benefit of the work that Tom Bearden has done over the last 10 years, in analyzing free energy, but, **they still seemed to have arrived at the same conclusion**.

[...]

- **David Wenbert**: [...] That's why I haven't updated our website in a while because

this emerging understanding has been unfolding, and we've been trying to figure out what's the best way to present it. Various things like the Tesla switch are also public domain technology, and we believe that, at some point, **a master design can come together** that incorporates this into one practical device. The bottom line of the water fuel cell is -- it really is a fuel cell. It's not a misnomer. **You just add water, expose it to the universe, in the form of that radiant energy pulse, and it gives you electricity**. And you get combustible gas out of the byproduct.

[...]

- **David Wenbert**: Yes, properly constructed, according to what we know now, **the water fuel cell will consume no current. <u>It will produce net current</u>**. What's actually happening there is, **you're achieving dielectric breakdown in the water, over and over again - doing it with voltage**. You're not allowing any current to enter the cell. When the voltage spike grows to a certain magnitude, it forces dielectric breakdown. If no current is entering in from the cathode (which **<u>Meyer's cathodes were insulated</u>**, by the way), **the electrons are ripped from the water to fill the holes in the anode. And as you pull electrons out of water, water molecules break down**. First, you have ionization when they lose one electron, and then you have **disassociation when they lose 2 electrons**. And that's what happens in the water fuel cell - over and over again. And **all those electrons build up, and <u>they're drawn off by what Meyer called the electron extraction circuit. And, so you're getting DC current out of the water fuel cell, and that electron extraction circuit -- in direct proportion to how much gas you produce</u>**. Now if you want more gas, you fix it so it pulls out more current, and vise-versa.

[...]

- **David Wenbert**: [...] - the simplest depiction of all of this is **in a document that was released on July 27th, 2007, by Patrick Kelly**. Patrick Kelly, as you know, is the editor of **The Practical Guide to Free Energy Devices**, which is now hosted at http://www.panaceauniversity.org And his document - **Number D3**, (and it's easy to find at www.panaceauniversity.org), that document goes into various **similarities between the Bedini motor, the Tesla switch, and a patent by Harold Aspden (the British physicist)**. On pages 25-36, of that descriery document, you see a walk-through of the Tesla switch, which John Bedini first presented at the Tesla Centennial Symposium in 1984. But, you'll see diagrams that show just how the Tesla switch circuit works between 4 batteries - keeping the batteries charged, while you draw off a load. **The more load you draw off, the faster the batteries charge. It's completely the opposite of a normal electrical circuit. It depends on the switching**. But that is the single, simplest embodiment of this same principal. And what's going on in that Tesla Switch was just a handful of transistors and capacitors. What's going on in that Tesla Switch is the same thing we're seeing in the water fuel cell, it's what Joe Newman's motor does, it's what John Bedini's motors do, it's what the MEG does - in the final analysis. Now, Joe Newman uses, what is in effect, a rotary mechanical switch - his commutator. And Newman's commutator is the secret to the Newman energy machine. The coils and the magnets are amplifiers. That's not where the magic happens. **<u>It's happening in the switch</u>**.

[...]

- **David Wenbert**: [...] Now, it's also true that that commutator is probably a better way of doing this than transistors and other discreet modern electronic components. There's certain things about this energy flow that may be difficult for elements like MOSFETs and so on, to accommodate.

- **Sterling Allan**: **Peter Lindemann's circuit also has a transistor**. It's really quite nifty how he's redesigned that circuit to accomplish the same thing, but outside of the Bedini patents. So that's more of an open source type of beast than what Bedini's is -- where there's a patent protection.

[...]

- **David Wenbert**: And, there's enough of it now in the public domain. You know, even the foreign patents, which Joe Newman was awarded in various counties under the patent cooperation treaty in 1988 - that patent has expired. So, with all do respect to Joe Newman, his technology is in the public domain - at least what he's exhibited so far.

[...]

- **David Wenbert**: And Meyer's and the Tesla Switch and so on. And from all this, it should be possible for anyone whose got the fabrication and assembly capability to organize a practical device. And that's something that we're looking at right now.

[...]

- **Sterling Allan**: M-hmm. What about the **theory that's put forth by Moray King**, who says that **these electrolysis scenarios are somehow tapping into zero-point energy**. The gas clusters on an atomic level are creating a self-organizing criticality that somehow gets the zero-point energy moving, and that's the true source of energy in these scenarios - NOT the water itself.

- **David Wenbert**: Well, yes. Like I said, the water fuel cell is complex. Not only does the circuit behave like a Tesla Switch or the MEG, but in the water itself, when that voltage spike is applied, but no current is allowed though it - what is happening in the water is the same thing that's happening in the circuit. It's just happening all over again. And that appears to be where you get this ingression of energy from the vacuum -- in the quantum vacuum.

[...]

- **David Wenbert**: Stan Meyer, in one of his lectures, actually described it that way. **He said with that pulse, we're opening a door, and as long as we can keep that door open, the energy will continue to come in**. But it's very hard to do, and you have to keep pulsing it, and keep opening the door over and over again. Well, that's the same thing as the Gray Tube in E.V. Gray's Motor, and the same thing the Newman Commutator is doing.

[...]

- **David Wenbert**: Well, yes and no. I mean at the simplest level, water fuel cell seems the best description. It's also been referred to as a water capacitor, although there are more mundane, closed water capacitors for other purposes. I think that as the understanding of these things comes together, and I'm talking just over the next 3 to 6 months, you're going to see some very reliable, replicable demonstrations that are going to make it irrefutable that the excess energy is real, and that it's being used in these devices. And then grudgingly, you'll see the scientific establishment start taking a more serious look at it.

[...]

- **David Wenbert**: [...] You have to remember, Stan Meyer died in 1998, and we're just coming up on the 10th anniversary of his death. He didn't have Tom Bearden's papers to go by.

[...]

- **David Wenbert**: He didn't have.. well, virtually everything that's on the internet now, in the field of free energy, didn't exist 10 years ago. And I think that **by finding**

the keys to the phenomenology that we think we have now, the water fuel cell can be made simpler and more reliable. And ultimately, you won't need -- for a home power system for example… you know, we were envisioning: you'd have a water fuel cell, and you'd take the gas and you'd run it through a microturbine, and the microturbine would generate electricity, and with the waste heat, you'd heat your water. So you'd have a home power system not unlike a Generac - or one of these things on the market today for backup power that you can buy at Home Depot. A microturbine would be better than a piston engine for reliability reasons, but that's beside the point. Anyway, that's where we were, looking at doing with the water fuel cell - was getting it to the point where it can be used for home power, in that regard. **But now, as we've studied it further - in the relationship to the electrical power that comes out of the cell, in the electronic extraction circuit, it could be a lot simpler than that. It could just be a question of having a battery bank, like you would if you had solar PV panels on your roof - where you have a dozen batteries, or 20 batteries, and an automatic transfer switch, and inverter, a charge controller, and voltage regulator**. You know, all this stuff is off-the-shelf in the solar industry. (36:34) You'd have that same system, but **there would be a water fuel cell, and <u>the current thrown off by the water fuel cell would keep your batteries charged</u>, and the batteries would go to a 12 volt inverter, and convert it to 120-volt AC, to run your home**.
[...]
- **David Wenbert**: In that case, it's almost like the gas becomes irrelevant, but yeah, you can use it in your HVAC system, you know, in an absorption chiller or something like that. In an automobile, it's just the opposite. There, you would use the gas in the internal combustion engine, and the fact that it's generating a lot of electrical power, well, you'll make use of that in some way, perhaps a hybrid vehicle is ideal for use with this.

- **Sterling Allan**: So, you said it a number of times that apparently bears repeating - I had not appreciated - that **the water fuel cell is not only generating gas, the hydrogen/oxygen coming off of the broken bonds from the water, but you're saying it's also generating current**.

- **David Wenbert**: Yes, as a matter of fact, one of the things that became apparent in our research is that <u>you can not neglect that electronic extraction circuit -- you NEED to pull that current out of there</u>, **because every electron that's left in the water is inhibiting ionization and disassociation from occurring**. That's why the **pulses are timed in such a way that they keep the current from entering the cell. And <u>the cathode that the electrons would normally come out of, is insulated in Delron</u>. Stan buried that in his documentation. It was hard to figure out he was doing that, but yeah, the sort of bounce-back and the resonant effect is the primary factor in keeping the current from entering, and the Delron insulation prevents any leakage beyond that**. But meanwhile, as the result of ionization and disassociation, you have this **free electron current that arises in the solution**. And the way the circuit works is, <u>**when the high voltage pulse is off on the anode, the Electronic Extraction Circuit kicks in**</u>; **because the electrons can't all move through the water fast enough to get to the anode during the pulse. So the EEC draws off this free electron current, <u>and you can power a light with it; we've had people use it to run motors & fans and pumps and so on</u>. But it's very important, because <u>otherwise those electrons will build up and change the nature of what's</u>**

happening chemically, and inhibit the process.
[...]
- **David Wenbert**: I think that if a home power system based on free energy, whether it's the Tesla Switch, or whether it's a version of that involving the water fuel cell - either way, you're going to be able to do with a little green box for $2,000 what you would otherwise need $20,000 worth of solar panels to do. Now, the balance of the system is all pretty much going to be the same, and we're fortunate our friends in the solar industry developed this to a high art - and there are a thousand installers around the country, who put these things in every day. You know, the battery bank, and its associated electronics is now something you can buy out of a catalog from a dozen vendors. That wasn't the case way back in the 20th century.
[...]
- **Sterling Allan**: In our video that we're putting out here in a couple of days, there's a snip showing Xogen technology (spelled Xogen.com is their website). Or, actually, I think it's dot… (David & Sterling together: it's dot CA I believe). Yeah, they lost their dot com. Anyway, they are claiming to use the technology not to produce gas, but to purify water.

- **David Wenbert**: Well, yes, and you can do that with high voltage in water. It doesn't mean that they have real water fuel technology though, unfortunately. You know, there are a number of companies doing that sort of thing, and we refer to it as exothermic plasma synthesis. They all have different trade names for it. You've got companies like StarTech.net, and U.S. Magnagas.com. There are a dozen others, and they use a high voltage discharge under water to produce combustible gas. And what they're doing is - carbon based. Most of them are using carbon, or graphite electrodes, and the electrodes ablate and you get COH2 out -- carbon monoxide and hydrogen in a loose bind, and it is fairly clean and very efficient. But the graphite electrodes are expensive. That is a field that we're interested in, but that's not really the same thing as the water fuel cell per say.

- **Sterling Allan**: Ok, so the idea that water fuel cells could be used clean the water, while also providing energy is a bit misplaced?

- **David Wenbert**: Well, no. I mean, one of the things we've uncovered is that **you can use any water in this thing. I mean, first, when we realized that Peter Lindemann was correct, and that the dielectric break-down in the water was the key, our people started all using distilled water, and triple distilled water, and isotopically pure water, and so on. But, that only matters if you're passing current through it. And we realized that, no - there is no current being introduced into the water fuel cell, because the cathode is insulated. Then we realized that Stan Meyer really was correct when he said you can use sea water. It doesn't matter, you just adjust the parameters. But when the water is… whatever it's resistively is, or how conductive it is - it doesn't matter. You can still achieve dielectric breakdown if you drive it with enough voltage fast enough.**
[...]
- **David Wenbert**: Well, Stan Meyer and Yule Brown were contemporaries. They were rivals. They were going around the same time in the '70's and '80's promoting their technologies. There's conflicting evidence about whether the gas coming out of the water fuel cell is really Brown's Gas or whether it has the same unique properties as Brown's gas. That's going to take some spectroscopy to really get a handle on that,

and we plan to do that in the future. Brown's Gas machines typically operate at about 3 watt-hours per liter. With the water fuel cell, we're seeing at least twice as efficient, and ultimately, many times more efficient in producing the gas, although studying Brown's Gas has told us a lot about what is going on in the water fuel cell. Brown's gas is ionized. And the Brown's Gas flame is impinging on something - it's transferring a charge. That's what accounts for all the bizarre properties of Brown's Gas. A normal flame, whether it's a torch or a candle, or whatever - it's a plasma. All fire is plasma, but it's neutral. The total number of positive charges and negative charges are roughly equal in an ordinary flame. Not so in the Brown's gas. And that tells us that when you create this gas in an electrically asymmetrically fashion, you draw off the electrons. You start seeing unusually effects occur, and indeed that's the case.

- **Sterling Allan**: Are you **observing the similar effects to what Brown's Gas is observing**? You, know, you can take a torch and you can wave across your hand and it doesn't burn your hand, but you can then take that same torch, on the same setting, put it to tungsten and it will sublimate it almost immediately.

- **David Wenbert**: Right, **that's due to the fact that the flame is highly charged**.

- **Sterling Allan**: And you're seeing that same effect with the gas coming off the water fuel cell?

- **David Wenbert**: Well we haven't been analyzing its combustion characteristics yet; we've been concentrating on gas production efficiency.
[...]
- **Sterling Allan**: The other is, how does this relate to people who are using hydrogen injection systems into their air intake in the vehicle they have in an onboard electrolysis scenario -- producing brown's gas, which then goes into the air intake, and increases the fuel efficiency and decreases the emissions.

- **David Wenbert**: Yes, those can be generically referred to as hydroxy-boosters for cars, and I think there are, I think about 50 of them on the market, and have been, and there's more all the time -- and people do seem to get incredible results with them. The Hydroxy Energy Association that they're putting together will hopefully serve as a trade association for all kinds of water fuel technology, not just the water fuel cell. And you've got out there companies that make Brown's Gas welders. You've got companies that make these hydroxy boosters that are examples of water fuel technology that's in use today. There's a company in Korea that actually has a Brown's Gas system that feeds into a roaster, and you can roast chickens on a commercial scale using Brown's Gas. They claim that the meat cooks better, and that it's juicier and so forth. But, yeah, the Hydroxy Energy Association for Renewables and Transports and Homes (or HEARTH) will be based here in Washington DC, and will represent the interests of the new water fuel industry in the same way that the American Petroleum Institute represents oil companies, or the gas association for natural gas and coal industries represent their fields. Indeed, a thousand other industries that have trade associations.
[...]
- **David Wenbert**: [...] we're talking with the Panacea Foundation in Australia about possibly doing a joint function with them at some point. It would be nice to do

something in Hawaii, in collaboration with Panacea, and bring together water fuel researchers from the U.S. and Australia - -which is where most of the effort seems to be concentrated worldwide - although, we do have some very active teams in South Africa and other countries around the world.

-- Return to the top

Water Fuel Cell Open Source Project, OS:Water Fuel Cell, from Peswiki
http://peswiki.com/index.php/OS:Water_Fuel_Cell

Stanley Meyers electrolysis. This project seeks to replicat what he accomlished before his untimely death. This is a publicly editable site. You are welcome to participate in its development.

Shortcut URL : http://watercell.info/ . An open source project by the H2earth Institute http://www.h2earth.org is in process of replicating the water fuel cell technology of the late Stanley Meyer http://peswiki.com/index.php/Directory:Stanley_Meyer , who ran vehicles on water, and whose patents have just now become public domain.

Water Fuel Cell Parameters : Physical Cell Construction:

The WFC consists of some number of independent sets of concentric tubular electrodes, where the gap between the Outer Tube and the Inner Tube of each set is no larger than 1.5mm.

- While corrosion is not apparent in a mature operating WFC, it can occur during the cell's initial burn-in phase. Consequently, tubes of the 316L stainless steel alloy are preferred.

- While welded tubes are less expensive, and can be used for the inner electrode, the outer tube should be extruded, to avoid any inner weld bead which might provide a conductive path to short out the interelectrode gap between them.

- A thorough cleaning, to include an overnight soak in HaOH (lye) solution has been shown to enhance performance, most likely by dissolving any machine oils picked up on the tube surfaces in shipping (or carbon weld residues).

- An initial high amperage "burn-in" of 100 hours has appeared to enhance performance as well; this is believed to result from hydrogen loading of the cathode's metal lattice, which changes its electrolytic properties. (See Cold Fusion).

- In procuring tubes, one generally selects the outer diameters of 3/4" and 1", and adjusts the inner diameter of the outer tubes for the desired interelectrode gap. While a smaller gap is preferable, water flow issues impose practical limitations on this. Some cell designs with forced water flow seek to overcome this limitation.

- It is believed that there may be acoustic resonance factors participating in the Meyer Effect, as well as electrical. Consequently, tubes are lightly mounted and allowed to vibrate, provided the inner and outer tubes are separated by spacers composed of a

high voltage insulative material, such as teflon. When gas production peaks, a characteristic ringing of the tubes is audible; it is not known if this is a cause or effect of the process. (See Theoretical Considerations).

- A WFC is not grounded, and the cell container itself should be insulated from any conductive path leading to ground.

- Cell operating characteristics will change with the level of water in the cell; hence, an auto-fill system should maintain the water level on a constant basis as closely as possible.

- The incremental current draw for each additional tube set in the Cell is less than that which came before, with new tube sets producing an equivalent amount of gas to those previously in the system, consequently, larger arrays are preferable and more efficient.

Pulsar Circuit, The Meyer Waveform:

The frequency generator for the unit will accept straight DC input at 12v/10a, and, produce a variable pulsed output of between 2Khz and 100Khz, in gated pulse trains of 4 to 10 pulses per train, with a variable gate width, enabling a duty cycle which can be throttled down from 90% to 10% during cell operation.

- Contrary to popular misconceptions, the waveform is not a simple sawtooth wave. It is a ramp of individual square wave pulses, step charging the water capacitor. (See Theoretical Considerations). Each pulse train builds to the point of catastrophic dielectric breakdown, but is interrupted before current can actually flow through the cell.

- There is no "magic frequency". The optimal frequency in any given circumstance is a function of the specific configuration and dimensions of the cell being used, the water composition and temperature, and other factors. A complete cell will sense its point of resonance, and vary the frequency in realtime to maintain that condition.

- A relationship is known to exist between the length of the tubes and the frequencies used, which appears to observe the equations for Acoustic Resonance in metal tubes, used in the design of musical instruments, such as organ pipes.

- While 555 timer MOSFETs have been used successfully, there are indications both from Meyer himself and from the work of independent researchers, that more primitive pulse forming circuits may in fact be better suited to the requirements of the system.

- The circuit has been found to reach high voltage levels - in excess of 35,000v - in pulses with a duration of under 75 nanoseconds. Initial observations missed this, but faster instrumentation confirmed that multi-kilovolt levels were being achieved by Lawton, and that this is in keeping with Meyer's lectures and writings about his work.

- The 555 MOSFETs can easily be blown by these high voltage spikes, and may give no outward indication of doing so (no 'snap, crackle, or pop', no discoloration or smoke), where the failure is only detectable if the right pin is being actively monitored. This can lead to researchers finding a 'false negative' result in their experiments. Protecting the timer with a 10v Zener diode is advised; a simple 10a fuse is insufficient.

Aaron's WFC circuit
http://www.freeenergynews.com/Directory/Electrolysis/StanleyMeyers/Aarons_WFC_circuit.pdf - close to the best iteration of the circuit at this point.
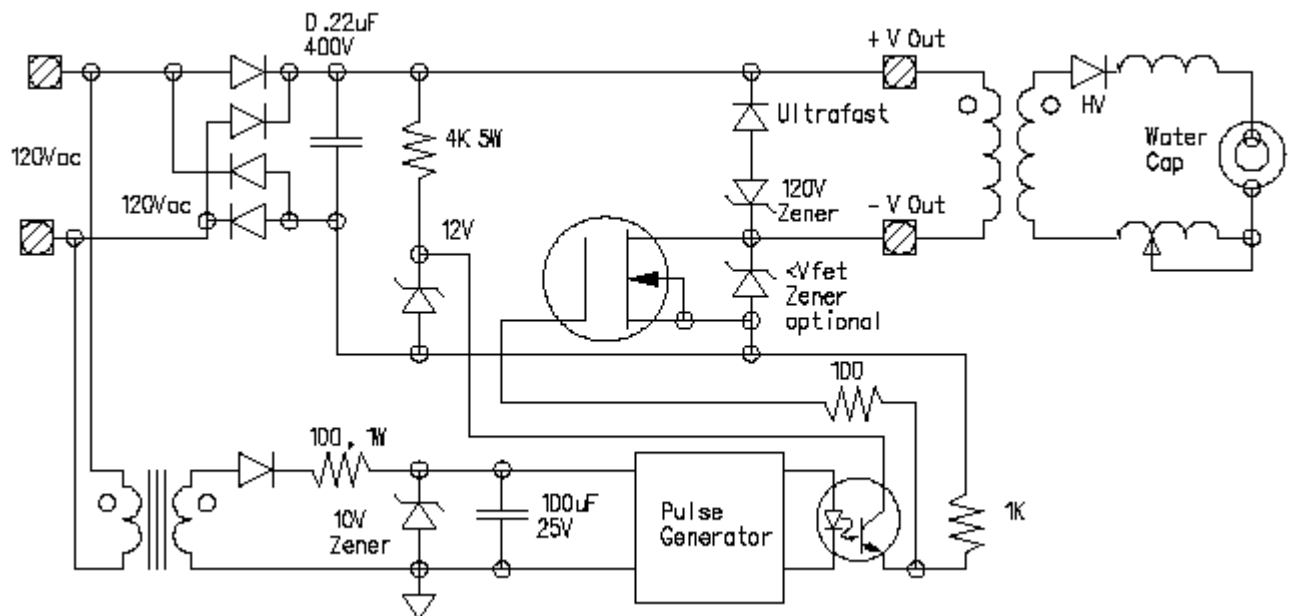
Resonant Charging Chokes:

Two Inductor Coils, placed on either side of the WFC electrically, amplify and reflect impulses through the Cell, and establish an electrical resonance between them. It is believed that the high voltage potential exchanged between them - which can translate instantaneously - is able to interrupt the flow of current before it crosses the Cell, thus conserving amperage and reducing net energy input requirements.
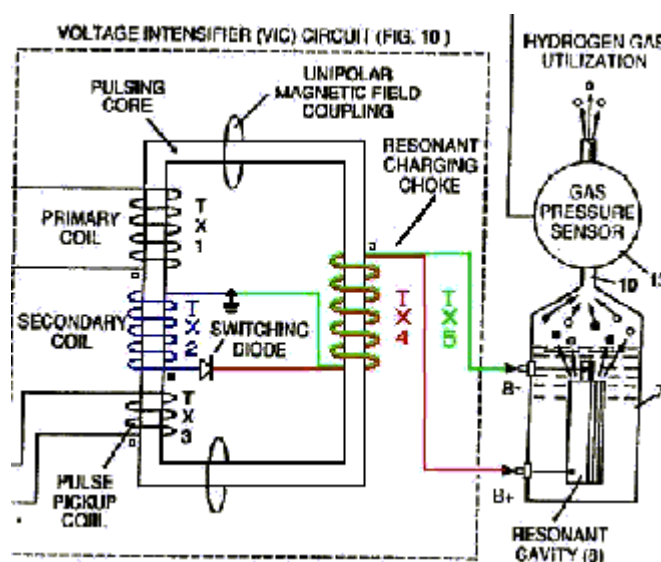
- There is a relationship between the size of the RCCs in number of turns, and the length of the tubes in the Cell.

- It is believed that a detail which Meyer left out of some patents to protect his design may have been the use of bifilar wire in the RCC coils.

- The optimal coil core material is believed to be an engineering resin emulsion of

River Hematite, an iron oxide compound widely found in nature, which various researchers (Lindeman, et al) have found to have superior properties with respect to magentization/demagetization for use in such devices. (See Theoretical Considerations).

Voltage Intensifier Circuit, The Missing Piece: The VIC transformer coils were bifilar:

VOLTAGE INTENSIFIER (VIC) CIRCUIT (FIG. 10)

PULSING CORE
UNIPOLAR MAGNETIC FIELD COUPLING
HYDROGEN GAS UTILIZATION
RESONANT CHARGING CHOKE
PRIMARY COIL
TX1
GAS PRESSURE SENSOR
SECONDARY COIL
TX2 SWITCHING DIODE
TX4 TX5
10 13
B-
TX3
PULSE PICKUP COIL
B+
RESONANT CAVITY (8)

The Voltage Intensifier Circuit is a bifilar pancake coil transformer which provides distributed capacitance and inductance to the tube sets in the Cell. Its function is to manage the transfer of potential through the Cell, while inhibiting the passage of current by the circuit.

- In the WFC, Current performs no work, and is considered counter-productive, and a waste of energy.

- A perfect WFC would pass no current whatsoever, merely switching massless potential (Voltage) between the electrodes.

- The challenge is to trigger the sudden catastrophic dielectric breakdown within the Cell, between electrodes, while inhbiting the passage of current between them. When this occurs, all current required to effect the breakdown must be pulled from solution.

- Meyer left a subtle element out of the patents, to protect his technology; the fact that the VIC coil is wound of bifilar wire, as found in many Tesla devices.

Electron Extraction Circuit, Lamp powered entirely by the Free Electron Current drawn from solution by the EEC:

The Meyer Effect is occasioned by the establishment and maintenance of an electron deficit in the water. As the Cell operates, a free electron current develops as two electrons are liberated per water molecule, through first, the ionization and then, the dissocation of each molecule. For this reason, the WFC is a "true" Water Fuel Cell, generating electric power as it operates, the fact that it is also producing fuel gas, notwithstanding. Removing these free electrons is necessary to prevent ionized species from dropping back down to equilibrium, and preventing Hydrogen and Oxygen from recombining back into water before the gases are released from solution. To remove the free electron current from solution, the EEC is incorporated into the Cell, but it is a separate circuit from the rest of the system.

- The Cell must not be grounded (either intentionally or by inadvertant conductive ground path), or its potential will entrain unwanted electrons from ground, as the EEC operates.

- The free electron current drawn from solution is substantial and has the ability to perform useful work. Bright incandescent bulbs and muffin fans providing practical cooling have been powered from EEC outputs in WFC experiments. Since this current is necessarily directly proportional to the number of water molecules processed by the Cell, the greater the current which can be extracted, the more combustible gas is produced.

- That the water carries a strong electrostatic charge is evidenced by visable changes in surface tension, meniscus, froth, and other factors.

Theoretical Considerations:

The Meyer Effect has been established through circumstances which expressly exclude the operation of normal electrolysis. The water is not conductive, and no electrolyte is added to increase conductivity. The amperage used is insufficient to produce the gas volumes observed, and, when the effect is evident, there is a relationship between the net voltage (and frequency) reaching the cell, rather than its amperage.

- All polarity in the Cell is in one direction, at least per tube set, and never crosses the centerline. The objective is to produce the maximum possible unidirectional electrodynamic stress on water molecules within the interelectrode gap, and not allow their reorientation or return to equilibrium.

- This polarization affects the quantum state of the water molecule, as does photonic (light) input, but to a much greater degree, extending and elongating the

electronsphere of the outer valence electrons.

- Meyer correctly anticipated the work of Scragg, Mills and Santilli, with respect to photokinetic effects, fractional quantum states and magnecular bonding in Hydrogen, and these are all directly relevant to the oepration of the WFC.

- Pulsed potential impacts on the polarized, aligned water molecule not only extend its electronsphere, raising its quantum state, but also affect the photoelectron yield of the water, in effect rendering it more susceptible to photodissociation than it is in a normal ground state. With photon emission occuring from Oxygen upon liberation, the quantum efficiency of photolysis becomes greater than one, with each dissociated water molecule triggering the dissociation of others. The peak absorption point of this photosensitivity is believed to be in the Infrared, around 900nm, which does not correspond with that of normal water, which is in the UV portion of the spectrum.

- Electrical resonance occurs with in the circuit between the RCC coils and VIC transformer, and also within the Cell, between the tubular electrodes, while there also appears to be an acoustic resonance at work. There may be a phase relationship between these three resonant phenomena.
* The acoustic factors could be as simple as vibrating gas bubbles loose from the electrode surface faster, thereby exposing more effective surface area per unit time. Whatever else applies, this is probably also happening.
* Another possibility strongly indicated by the dynamics of the process is that a standing acoustic wave arises between the electrodes, inhbiting ion transport and delaying dielectric breakdown until higher potentials are reached.
* Other researchers (Keely, et al) have reported phonodissociation of water at various acoustic frequencies, as low as 42.8 Khz; other harmonics may also be possible and at work in this system.

- Indications are that the VIC and RCC coils in the circuit behave in the same relationship as coils in the Bearden Motionless Electromagnetic Generator, and that currentless potential is switched in an analogous manner, with the water serving as the 'degenerate semiconductor'. The voltage potential is pulsed at rates inside the relaxation time of the water, and similar effects are observed.

- References in Meyer literature and patents to a self-tuning mechanism may related to physical properties in nature, rather than (or in addition to) a phase-locked loop within the circuit itself. The similarity of the output waveform of other FE/OU devices, i.e. Newman, and the input waveform of the WFC is not coincidental. (See Below)
(see picture http://peswiki.com/index.php/Image:NEM-WFC.jpg
For More Information: The H2earth Institute continues its work to refine this understanding and translate it into reliable plans which will be available at no cost to the general public as the earliest possible opportunity. If you are an active waterfuel researcher working on the WFC or any other hardware configuration (Boyce, Blue, Hasebe, Han, etc.), you are invited to participate in the Institute's International Research Fellowship Program.

Related Sites : The Australian website http://waterfuelcell.org/ is NOT owned or operated by the H2earth Institute or any of its affiliated organizations. However, it

contains much valuable information.

Contact : David L. Wenbert, project director http://www.ryze.com/go/h2earth
H2earth Institute ; Washington DC ; phone: (pending) ; email: H2earth@gmail.com ;
Skype: dave.wenbert

Replications:
Dave Lawton :
- Dave's Cell Without Inductors or Alternator
http://www.youtube.com/watch?v=Kf_nFQBBzmc 32sec posted 5th September 2007
"the WFC generates just as much gas as with the alternator or Inductors"
- Dave Lawton replication information and cold current information from
Panaceauniversity http://panaceauniversity.org/D14.pdf

Ravi Raju : Stanley Meyer Replication with 9 inch, 9 tube sets. with an input current
of 0.51 Amps from the frequency generator.
- using Panacea University Instructions http://www.panaceauniversity.org/D14.pdf for
the Dave Lawton replication of the Stanley Meyer Water Fuel Cell.
- proper discussion at http://oupower.com/phpBB2/viewtopic.php?t=1602
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#001]
47seconds, posted 15th August 2007 ; This video shows the innards of the WFC
without water.
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#002]
10seconds ; This video shows Freshly filled Tap Water. No other impurities added.
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#003]
01min:37 ; This video is after the top is sealed and with an input of 0.5 Amps from the
Frequency Generator. Produces really large bubbles (approx from 4mm to 10mm) not
like the small ones we see in other videos including Stans setup....which shows a lot
of small sized bubbles. You can see this in the video...this goes on from the start of the
WFC till you stop after which traces of small bubbles keepleaving the top for about
20 to 30 secs....this is probably the capacitor (WFC) discharging. I have absolutely no
idea why im getting large bubbles.
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#004]
01min:32
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#005] 18sec
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#006] 11sec
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#007]
01min46sec ; This was the first and second generation after the leads were changed.
The light in these videos is good. These videos are about 5 or 6 days old.
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#008]
02min45sec ; This was the first and second generation after the leads were changed.
The light in these videos is good. These videos are about 5 or 6 days old.
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#009]
02min39sec ; I had made this video in the night so the light is not so good, but the
volume of gas the WFC makes is very clear. The output also is higher. The collection
was for 20 secs....1.31min to 1.51min of the video and the volume of gas collection
was @ 160/165CC, even if you take the volume as 150CC with balance as steam and
other losses....it amounts to 7.5CC/sec of HHO....thats about 0.45 lits/min (minimum)
- Ravi's Stanley Meyer / Dave Lawton Replication Water Fuel Cell video#010]
03min09sec ; I was asked for the voltage and the connections so I made this video and

posted it a little before I got the call. I've switched off the left part of the circuit with the switch on the pin 3 of the 555 and you can see that the current draw increases over fourfold and you cant see any pulsing on the right LED. The left LED is connected before the switch on pin 3 as in [D14 http://panaceauniversity.org/D14.pdf].
- Tuning the Frequency of a Dave Lawton replication , not by Ravi RAju] 9min53sec
- added 22th August 2007

Aaron Murakami :
- Aaron Murakami Replicates Stanley Meyer's Water Fuel Cell http://www.youtube.com/watch?v=pSFpBW8_v8o - Using a plastic pasta jar with stainless steel concentric tubes filled with tap water from his kitchen sink, and no added electrolytes, with an input power of 36 watts (12 volts at 3 amps) pulsed, Aaron produces enormous amount of "Brown's Gas " Stanely Meyer style. (YouTube; Aug. 10, 2007)
- I updated the video clip with a few more tidbits of info about what I did: http://www.esmhome.org/library/stan-meyer/wfc.wmv
- video on conditioning the tubes...I have 7 tubes setup and in this vid I am putting LESS THAN 10 watts into it. You can see the inner tubes are being coated with the white powder coating. http://www.youtube.com/watch?v=qXRMVZWrgSk
- Video on the Bifilar chokes - info taken from tech brief: http://www.youtube.com/v/ozpRNpM6FqM
- WFC White Powder Coating on Cathodes - no conductivity http://www.youtube.com/watch?v=Rx2uEsbTt8Y

Crux_wfc :
- Electrolysis in distilled water with no electrolyte http://www.youtube.com/watch?v=mnPakaI701Y (34 seconds) - Crux_wfc electrolysis cell makes hydrogen gas in distilled water, with no electrolyte, which is supposed to be impossible. (YouTube; July 11, 2007)
- Aaron's circuit http://www.freeenergynews.com/Directory/Electrolysis/StanleyMeyers/Aarons_WFC_circuit.pdf) (pdf; 12 kb)
username at http://waterfuelcell.org/ is "crux_wfc"

- Videos: http://www.youtube.com/h2earth
- Blog: http://my.opera.com/H2earth
- Downloads: http://my.opera.com/h2earth/blog/cybrarium - The Waterfiles Archive
- Forums: http://my.opera.com/h2earthbeat
- Overview Video: Water as Fuel (via ZPE) http://peswiki.com/index.php/Video:Water_as_Fuel_(via_ZPE) (3 min) - While academia has been spurning the topic, hundreds, if not thousands of hobbyists and independent investigators worldwide are working on various electrolysis-like projects which put out more energy than was required to run the electrolysis unit. (PES Network Video; Aug. 31, 2007)

- **Special Waterfuel Acceleration Team**: This report represents the ongoing work of a global Open Source collaboration of independent researchers, Associate Fellows of the H2earth Institute's International Research Fellowship Program. Through a teaming relationship with the Pure Energy Systems Network, the invitation to participate in

this project is now extended to the broader FE/OU community. Various schematics, documents, images, video, and data will continuously be added to this report, until waterfuel technology becomes universally available.
- **Videos**: http://www.nextenergynews.com/fuelcells/fuelcells1.html
- **Public Domain Waterfuel Technology**: http://www.h2earth.org/

On June 27th, 2007, U.S. Patents 4,936,961 and 5,149,407 by the late Ohio inventor Stanley A. Meyer expired, and his technology for the Water Fuel Cell fell permanently into the public domain in the United States. As what many consider the most sophisticated approach to "Hydrogen-on-Demand" technology (running a vehicle or genset on water alone), the Water Fuel Cell ("WFC") may be the most practical free energy device to introduce on a widespread basis. While it is alone among waterfuel devices in being accompanied by a reasonable theoretical foundation as to why it works, it is also among the simplest and least expensive waterfuel systems to construct. For these and other reasons, on January 1st, 2007, a new nonprofit research & education foundation, the H2earth Institute (http://h2earth.org) was organized to explore waterfuel technology generally, and to re-launch the Meyer WFC in particular, once it became free of intellectual property rights issues, upon expiration of the patents.

Notably, the 5,149,407 "Design" patent, which issed more than two years after the 4,936,961 "Methods" patent, was deliberately truncated by Meyer so that it would expire coterminously with the primary one. Disclaiming the remaining term of a patent is an almost unheard of step for an inventor to take, and indicates the later patent to contain some critical improvements that Meyer wanted the world to have when his basic technology became public domain. Meyer, who died in 1998, was working on more involved and exotic implementations of the technology, involving water injecting spark plugs, which is embodied in other Meyer patents which remain in force until 2011. This project is not concerned with that architecture, but only with the body of Meyer's work which is now in the public domain.

In June of 2006, retired U.K. Research Engineer Dave Lawton released a report,

compiled by PGFED Editor Patrick Kelly http://www.panaceauniversity.org, detailing Lawton's success in constructing a working Meyer WFC, which has produced gas at 3x the Faradic equivalent rate for the power consumed. Lawton, who spent much of his career at Britain's Rutherford Labs (equiv. U.S. Lawrence Livermore) designing and constructing instrumentation for high energy particle physics research, is far from the average 'tinkerer'. Videos of his two WFC units, one with an alternator based circuit, and one employing solid state timing logic, were posted on YouTube, and have received over 50,000 hits. The cells operated at 12-13v/3-4a - averaging approximatley 57 watts of input power - producing gas aggressively in distilled water with no electrolyte. On February 23rd, 2007 (the 18th anniversary of Cold Fusion), the H2earth Institute initiated an International Research Fellowship Program to facilitate realtime collaboration between waterfuel researchers around the world, working to decypher the keys to building a functional WFC, based on these Lawton WFC replications.

Almost immediately, some deficiencies were uncovered in the documentation, representing a difference between the Lawton unit "as built" and the schematics that had been published on the web. Presently, over 50 Research Fellows of the H2earth Institute, from 15 countries, are seeking to uncover the keys to making a functional WFC, and several have demonstrated gas evolution at 0.2 Amps (12v) in distilled water with no electrolyte. This is impossible by the known principles of conventional electolysis, and strongly evidences a real, legitimate "Meyer Effect".

This platform on PESN is intended to publish the technical findings of the H2earth Institute with respect to the WFC, in a public format which allow the documentation to grow over time as the design is further refined and "Best Practices" in constructing replicating units become known and confirmed. In the descriptions below, Bulleted items constitute findings generally accepted by the Institute (as of June 27, 2007) as having been found to be indicative of success in WFC theory, design, construction, and operations.

PETER LOWRIE electrolyzer: (page created at November 2007 Update)

PETER LOWRIE, Electrolytic Gas, Draft, copyright 2005-2006, from 'Lowrie Paper eGas.pdf' available at http://my.opera.com/h2earth/blog/cybrarium

Preambule: This paper sets out to describe why experimental apparatus, namely:
- Mitsubishi Cyclone (1)
- Honda TC 1600 (2)

engine(s) runs on electrolytic (3) gas. That is not strange in itself as it is well known that Hydrogen is a fuel*. The benefit of using Electrolytic Gas is that the Hydrogen has with it, its own oxidiser - Oxygen. Already perfectly proportioned, no gas mixing is required and so complete combustion is accomplished without the need for additional air. Here's the rub; the car engine uses a separate belt driven three phase marine alternator in a 'Y' winding with output rated at 150 Amps at 24 Volts which is fed into three electrolysis cells, each cell gets a single phase. Beginning at 12 Volts the cells are heated partly by hot exhaust gas and partly by way of voltage on the plates within acting as heating elements, additional electrolyte haeting is provided with one

600 Watts mains rated elements within. When the cells get up to temperature (about 75 deg.C) the alternator tickle supply is reduced to a range between 1.24 to 3.00 Volts which then serves to increase electrolysis efficiency in accordance with Faraday's Law(s) of electrolysis and thus efficiencies in the order of 97.5% (4) are achieved, the cell consuming circa 600 Amps each, the process becomes endothermic and provides gas (more than) sufficient to fuel the engine.

Thus engine generates its own fuel (and oxidiser) with ample power to spare. Most argue that this is an impossible situation; at best the engine becomes a dynamic brake and at worst it just won't work. The explanation being that you can't get more energy out than what you put in and in citing various texts, at first glance appears quite correct. The fact of the matter - as this paper will prove - is that the texts are either wwrong or fail to supply all of the information.

Definitions: Various figures are provided in texts for the energy value of the Hydrogen bond stength (5) of 104 kcal/(1/mole) or 104 kcal/mole^{-1}. So far as the mole fraction is concerned some express such as the inverse function and others as a reciprocal (mole^{-1}) and (1/mole) respectively. In any case the purpose is to detail a part of the mole or indeed one molecule at a time over time. Following lectrolysis the demised atoms may be at their lowest, or induced to increased energy their electrons orbiting above the lowest energy state. In order to reveal the correct figures for all sides of the reaction(s), there is wisdom in beginning with the elemental gases and their oxidisation reaction and finish with decomposition in order that the results comply with Thermodynamic law. For the remainder of the paper kcal will be converted to kjoule (kj) so that 104 kcal = 435 kj and unless specified otherwise molar quantities are 1/mole (mole^{-1}), denoting singular molecules as opposed to Avogadro's Number which denotes 6.02×10^{23} molecules. When this approach is taken the energy content latent in the oxidisation is realised, not so when the calculations start with water - something appears to get lost.

Electrochemical - V - Physical reactions: There are two bonds on the water molecule - one for each Hydrogen atom (of course). Therefore for one molecule of H2O 870 kj will break apart the water molecule and the equivalent energy, it is said, will initiate the gas combimation. Gas and oxidiser atoms never being in isolation, there being billions of them in n volume they undergo a chain reaction until all available atoms are recombined releasing enormous energy in quick time. The plasma speed is 3.9 Km/sec. The ash is water. Few texts referenced to date accounts for the energy release during recombination, more information about this apparent dichotomy will be discussed.

The heat flame (plasma) total energy is calculated by multiplying the respective atoms' ionisation energies for the process. The ionisation energies (6) of H= 1312.06 kj and O= 1313.95 kj^{ie}1, (3388.33 kj^{ie}2, 5300.51 kj^{ie}3) upon combustion the (outer in Oxygen) electron orbits interact, merge and settle down to stable orbits:
H^{ie}1 + H^{ie}1 O^{ie}1 = 3,447,962.47 kkj (e1)

Where ^{ie} is Ionisation Energy and n the energy layer (three in Oxygen) and only one in Hydrogen.

In the discussion of thermodynamics relating to the subject matter the question of heat

is a very important one, there being two types of heat. On the one hand is heat due to molecular motion and on the other is the heat of photons coming and going during reactions.

(MDG nov07: inthe following part, symbols are not readable on the original pdf file, so I can't transcripte them here)

In order of energy strength ... The formation of Hydrogen is a nuclear reaction there being two well known modes of its coming into existance; primordial Hydrogen and neutron decay. Neither of which are relevent to this discussion. Oxidisation (burning) of Hydrogen is a physical reaction of the middle energy order. And electrolytic decomposition is a[n] [electro]chemical reaction. The notion of co-efficience rests in Electrolysis, of the low energy order - a chemical reaction and Combustion - a physical reaction of the middle energy order being vasstly disproportionate. This can be shown to be the case; let ?= 870kj be the total energy consumed in splitting H2O and ? be the oxidisation expenditure in equation (e1) of [combustion] energy.
?/? = 3963.18 (e2)

This does not describe some 'hidden' energy, nor do special-pleading of over-unity claims have any relevance. The calculation reflects the starting position of the two gases. Even if the bond strength is subtracted from both sides"
(?-?)/?= 3962.18 (e3)

... it is apparent that the combustion product is highly energetic. So which is it? The chemical equation given:
$H_2O_{(1)}$ + 435kj --> H + H + $O_{(g)}$ + 435kj --> $H_2O_{(1)}$ (e4)
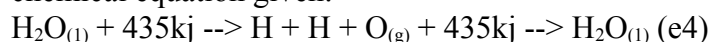
is clearly mistaken because, a/ only half the required energy is given and b/ there is a continuing addition of energy on both sides and appears not to factor-in any energy release. In any case equation (e6) plugs in the correct values to the formula provided in the text (footnote #2) and equation (e7) enlarges to include the enrgy release.
$H_2O_{(1)}$ + 435kj --> HO + H + 435kj --> H + H + $O_{(g)}$ [+870kj --> $H_2O_{(1)}$] (e5)
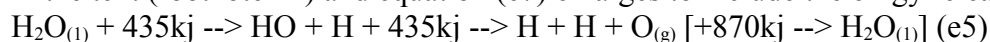
On the one hand energy is expended to break the bonds and on the other hand energy must be expended to remake them and clearly this imbalanced situation leaves a lot to be desired. What actually happens is that 870kj/mole^{-1} is expended to begin the recombination process and 3962kj/mole^{-1} is liberated as a net gain. The reason for this is that the ionisation process in electrolysis is [electro]chemical, the initiating energy is [electro]chemical however the resuktant ionisation (combustion) process is physical.
H + $H_{(g)}$ + $O_{(g)}$ + 870kj --> ($H_2O_{(ion)}$ - 3962kj --> $H_2O_{(1)}$ (e6)

... and then multiply this reaction by the gas volume denoted by Avogadro's number.

The author of this paper is not in isolation insofar as these apparently anomalous results are concerned, others have addressed the issue. (7) 'The smallest amount of energy needed to electrolyse one mole of water is 65.3 Wh at 25 deg.C (77 degrees F.). When the Hydrogen and Oxygen are recombined into water during combustion 79.3 Wh of energy is released. 14 Wh more energy is released in burning Hydrogen and Oxygen than is required to split water. This excess must be absorbed from the

surrounding media (environment) in the form of heat during electrolysis.' [...] 'At 25 deg.C, for voltages of 1.23 to 1.47 Volts, the electrolysis reaction ABSORBS HEAT. At over 1.47 V at 25 deg.C, the reaction gives off heat.'

The electrolysis cell voltage, overvoltage may be 1.3V therefore 1.47V + 1.3V = 2.77V is the voltage supplied.

One mole of water weighs 18 grams.
1,000 grams = 1 Liter ; 1,000 grams/ 18 grams = 55.55 moles (a7)
Therefore 1 Liter H_2O produces 55.55 moles of Hydrogen and 27.775 mo;es of Oxygen. 870kj H_2O produces as above which is then equal to 48328.50kj per Liter H_2O. Conversion to kWhr divide by 3600 (or x by 0.0002778) = 3.658 kWhr per Liter H_2O.

1 mole of gas = 24.450 liters of gas at room temperature, 'T' and atmospheric pressure 'P'.
55.55 x 24.450 = 1,358.3 liters of Hydrogen (and 679 liters of Oxygen from 1 Liter of H_2O.

Feynmann Descriptions: Studies made of highly energetic atomic and molecular interactions show that electrons can absorb or emit multiple photons raising or lowering energy levels far more than ordinary. (8) If the Light is intense enough, the light will actually rip off the electrons of the atoms it is interacting with. When this occurs, the ripped-off electron absorbs upwards of 45 - 50 photons all at once. This normally happens in two steps: First, the electron absorbs enough photons (thus gaining enough energy) to be excited into a high-lying Rydberg state. Next, the electron will absorb another number of photons and leave the atom with a certain amount of kinetic energy.

A useful method to display the different reactions involved in the processes of combination (Gases to oxide (combustion)), decomposition and molecularisation are Feynmann diagrams. In the following diagrams only the leptons contained in each atom are displayed.

Before there was ever water there was only gas. Three electrons are involved in the process of combination and at each juncture the combining electrons produce photons:

Two electrons are introduced to break the bonds but those electrons are ions and so do not add to the resulting atoms electron number. At the same time IR photons are being absorbed by the molecules increasing their energies and adjusting the bond lengths:

Following combustion in which the flame plasma may be described as an ionisation process photons are emitted. Due to the Pauli Exclusion principle the Oxygen electrons interact only in the outer layer, the inner layers being completely filled only the outermost layer may take part. However all of the layerings electrons may encounter in the Hydrogen atom are available and so following combustion the free electrons emit photons every time they encounter the nucleus and during spin-down until it reaches the innermost. At this point there is still a position free for another electron to fill and so very shortly after decomposition neighboring Hydrogen atoms

combine into Hydrogen molecules, each electron thereof emitting an ultraviolet photon - that's two photons. This arrangement is not very stable and so two low energy order ions may be introduced causing the Hydrogen molecule to bond with the Oxygen atom. Therefore many more photons are emitted during combustion than are accounted for on the primary side of the equation when the was no oxide, only Hydrogen and Oxygen atoms in a gas.

Bond Lengths: The entire work contained at http://www.lsbu.ac.uk/water/index.html should be read in conjunction with this paper. The part detailing Bond Lengths is reproduced here:

Shown opposite are the main vibrations occurring in water. The movements are animated using the cursor. The dipole moments change in the direction of the movement of the Oxygen atoms as shown by the arrows (9):
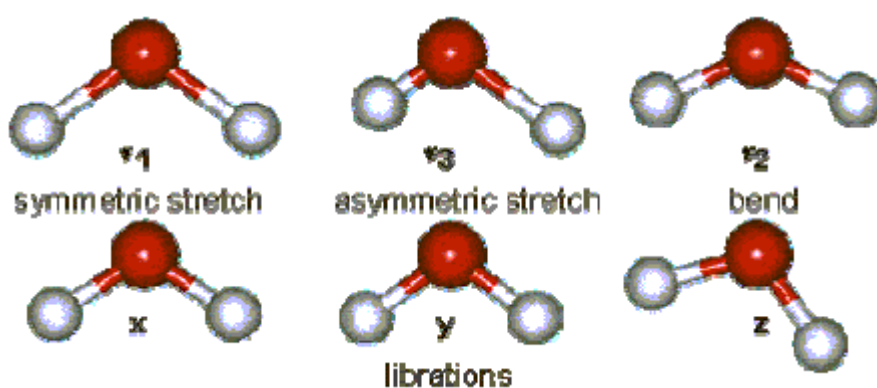
The main stretching band in liquid water is shifted to a lower frequency (v_3, 3490 cm^{-1} and v_1, 3280 cm^{-1} [8]) and the bending frequency increased (v_2, 1644 cm^{-1} [942])

What this means is that the energy required to break the bonds increases or decreases proportionately to the bond lengths which may be altered by such things as magnetic fields or heat.

# Gibbs Free Energy: Do the rules comprising Gibbs Free Energy reconcile with the energy shown in equations (1 - 6)? No. Provided there are energy co-efficients involved does GFE get turned on it's head? The Wien effect does it to Ohms Law. Why not here as well? Some reactions are spontaineous because they are exothermic ? H<0, and others are spontaineous because they are entropic ?S>0. The combustion of Electrolytic Gas is exothermic but the question of entropy is a moot point. Two disordered gases ignited combine to make water which is not an increasing entropy proposition, therefore in our calculation ?S<1. Provided the GFE of a system at the end of the reaction is defined as the enthalpy of the system less the product of the temperature multiplied by it's entropy.
H = Enthalpy ; S = Entropy ; Del.G = Del.H- Del.(TS) (e8)

THe usual standard-state free energy of this system ?G cannot be applied herein due to the rapidly changing temperatures involved in the reaction and the Enthalpy is:
?G = H$_g$+ H$_g$ + O$_g$(1S) = -318.402 kcal/mol = ?H = - 151.81 = ?S x 6000Deg. = ?H- -910,860 kcal/mol (e9)

Following combustion of the gases at 6000 Deg.C the resulting oxide cools until it reaches ambient temperature, the molecules return to their lowest energy and the amount of energy released persuant to GFE is close to the energy taken by the other route in earlier equations, in other words - a lot more than the Hydrogen bond strength.

Alas it is not that simple though. One cannot say that the "heat" of electrolysis is equivalent to this heat of combustion there being crossovers of photonic and molecular heat during the exchanges.

Faraday's Laws (10):

Faraday Laws:

$$V = \frac{R \cdot I \cdot T \cdot t}{F \cdot p \cdot z}$$ (10)   Draft paper from Peter Lowrie - 2005

$$V_{H2} + V_{O2} = \frac{0.0820577 \; 1 \; 273 \; .15 \; 3600}{96485 \; .13 \; 1 \; 2} + \frac{0.0820577 \; 1 \; 273 \; .15 \; 3600}{96485 \; .13 \; 1 \; 4} = 0.418151 \; L^{11} + 0.209075 \; L = 0.0627226$$

where: V = volume of the gas [L], R = ideal gas constant = 0.0820577 L*atm/(mol*K), = current [A], T = temperature [°K], t = time [s], F = Faraday's constant = 96485.31 As/mol, p = ambient pressure [atm], z = number of excess electrons (2 for H_2, 4 for O_2).   (11)
Assume that STP (Standard Temperature and Pressure) conditions and the electrolyzer runs at one Amp for one hour:
T = 0 □   C = 273.15° K   p = 1 atm   t = 3600 seconds   I = 1 Amp   (12)

Total Oxygen-Hydrogen volume is Hydrogen volume + Oxygen volume: This corresponds to about 0.627 liters per hour per Amp or 1.595Ah/l per cell.

If for example you have 7 cells in series and put 11A through the electrolyzer, according to Faraday's Law you would produce:
0.627//Ah *11A*7= +- 48.3 Liters per hour at STP conditions. (e13)

Note, however, that this applies only at a certain temperature (0 deg.C) and pressure (1 atm). The produced gas volume will scale with ratio of temperatures in Kelvins (higher temperature = higher volume) and inversely with the ratio of pressures (lower pressure = higher volume).

If at 0 Deg.C (273.15 Deg.K) the production rate is 0.627 l/Ah, then at 25 Deg.C:
273.15 Deg.K + 25 Deg.K = 298.15 K (e14)
The production rate is : 298.15 / 273.15 = +- 109% (e15)
larger or about 0.685 l / Ah. With 7 cells and 11A this would be 52.5 Liters per hour.

On the other hand is the output gas has a temperature of 40 Deg.C while it is being measured and the ambient pressure of 0.75 atm (about 1.5km elevation above sea level), the electrolyzer that produces 48.3 liters per hour at STP will produce:
313.15 Deg.K / 273.15 Deg,K * 1atm/0.75atm * 48.3l/hr = 73.8 l/hr (e16)

So even though the volume of the gas is larger at higher temperature and lower pressure, the energy contained in the gas or the energy required to electrolyze it is the same. If you produce the gas at 40C and 0.75ATM and bring it to 0C and 1ATM, the volume will reduce by about 35%. Thus it is very important to include the pressure and temperature in calculations.

What may not be immediately clear is that different experimenters report various results that are prima facae out of step with cherished laws. Some experimenters report efficiencies that appear in excess of Faraday's Law yet others no matter how hard they try attain only low levels of efficiency. Are the over unity claims due to errors in method or calculation?

Probably!. But then one has to consider consistent variances shown by experimenters as detailed in the analysis of their results which ultimately culminates in the preponderance of combustion energy output many times more than expected.

Thermodynamics of Electrolytic Gases (12): The heat of combustion values for monoatomic and diatomic (conventional) electrolytic oxyhydrogen gas are compared below.

When conventional diatomic (tank gases) oxygen (O2) and hydrogen (H2) are ignited, the bonds between the gas atoms in the diatomic gas molecules have to be broken first. This consumes energy. Energy is then released§ when the H and O atoms recombine into H2O. The total amount of energy released is the sum of these two energies, where the other one has '+' sign and the other one '-' sign.

While the heat of combustion for conventional diatomic H2 is shown in thermodynamic tables, the values for the monoatomic 2H + O, H2O reaction is not usually shown. It is calculated in the following:

(13) Dissociation of diatomic hydrogen gas into hydrogen atoms (consumes energy): H2(g) ? 2H(g) ... ?H = 217.998 kj (e17)
Dissociation of diatomic oxygen gas into oxygen atoms: (consumes energy): O2(g) ? 2O(g) ... ?H = 249.18 kj (e18)
Combustion of diatomic H2 and O2 to form water as steam (releases energy): H2(g) + 1/2O2(g) ? H2O(g) ... ?H = -241.826 kj (e19)
Dissociation of diatomic H2 and O2 molecules into monoatomic form (consumes energy): H2(g) + 1/2O2(g) ? 2H(g) + O(g) ... ?H = 217.988 + 1/2*249.18 kj = 342.578 kj (e20)
Combustion of monoatomic H and O to form water as steam (releases energy): 2H(g) + O(g) ? H2O(g) ... ?H = -(342.578 + 249.18) kj = -591.758 kj (e21)
Combustion of diatomic oxyhydrogen into water in the form of steam (releases energy): H2(g) + 1/2O2(g) ? H2O(g) ... ?H = -241.826 kj (e22)
Combustion of monoatomic oxyhydrogen (releases energy): 2H(g) + O(g) ? H2O(g) ... ?H = -591.758 kj (e23)

Combusting a certain amount (by weight) of oxyhydrogen releases about 2.45 times more energy if the oxyhydrogen is monoatomic instead of diatomic. Monoatomic oxyhydrogen has twice the volume for the same weight than does diatomic oxyhydrogen. This means that igniting one liter of monoatomic oxyhydrogen releases only about 1.23 more energy than the same volume of diatomic oxyhydrogen. However the theoretical energy consumption to dissociate one liter of monoatomic oxyhydrogen from water is half of that required to dissociate one liter of conventional diatomic oxygen and hydrogen gases.

It may also be noted that when the two Hydrogen atoms merge photons in the UV

band are released. In order to inhibit this merger it may be possible to subject the Hydrogen to strong UV (class C) radiation. Here also is a curious dichotomy; whereas water absorbs IR radiation during efficient electrolysis and whereas it releases UV radiation when the electrons spin down to their lowest energy state and combine into molecular Hydrogen (2H). The initial part of this process is of a lower energy order than the latter. To all intents this is a thermodynamic breakage and proves the authors earlier hypothesis that the electrochemical equations must be performed in their correct order to make proper sense.

Electrical features in Electrolysis: The theoretical decomposition voltage for electrolysis is 1.23 volts at room temperature ((14) 16 - 20 degrees C), however because of over-voltage of H on the cathode and also due to cell resistance itself voltages of 2.00 to 2.25 volts are usually required. Over voltage relates to charge held in the cell, the cell acting as an inefficient battery (resistance, capacitance, inductance). The following table shows the over-voltage as measured in the author's cells at various times and the calculated power input required for electrolysis:

In the left column are voltages read at various times and in the right column are theoretical voltages to apply for electrolysis (see original document).

The cells are comprised of disc interleave stacked electrodes. Potassium Hydroxide (KOH) 1:30, distilled water, 30 Deg.C, 1.27 MOhm (with electrolyte) from 120 MOhm (without electrolyte). Calculating Ohms Law says that at the higher impedance more current can be supplied:
1 - $E=IxR$; $I=E/R$; $R=E/I$
2 - 12 volts (nominal) / 3 cells = 4 volts per cell
3 - TO determine current: E/R ; $E=4$, $R=12x10^6$, $I=10x\ 3^6$ (e24)

When lowering the electrolyte impedance to c.l.2 kOhm the current will be 300 Amps, theoretically ..

Table 2 Volts	Electrolyte Kohms	Expected Amps	Observed amps
4	1200	300	1504
4	1000	250	1254
4	100	25	129
4	10	2.5	16.5
4	1	0.25	5.25
4	0.1	0.025	4.13
4	0.01	0.0025	4.01

...takes no consideration any voltage drop at the electrodes. On Mk1.1 the reactor experienced an 8 to 10 Volt drop when powered at 12 - 14 Volts. If three cells are connected in series the voltage at each is 4 volts, the voltage drop therefore renders the reactor inoperative and in series only the centre cell produces significant quantities of gas. As electrolyte is added and the cell impedance drops the power consumption increases as does the gas output.

Ohms Law dictates the current and voltage levels in the cell are relative to resistance, however clear signs emerge during testing that there is a kink in this Law. Whereas the cell resistance at 10kOhm , 1.23 Volts - load should equate to 0.13 milliAmps in

fact the reciprocal of this value is obtained. In all electronic/electrical circuits heat is generated. When powering the cell with increased voltages ranging from 6 to 40 volts heat is generated and the cell warms up as would be expected in an exothermic system. When voltage is reduced to that dictated by Faraday's Laws of Electrolysis the cell cools and begins to absorb energy from the surrounding atmosphere, that is; the circuit becomes endothermic. In order to keep the cell temperature at that required for highly efficient electrolysis IR radiation must be introduced to keep the electrolyte warm.

This breakage in Ohms Law is repugnant to most and many have stated that it is impossible. The clamp meter does not lie, how can Ohms Law be rent asunder in this manner? The answer lies within thermodynamic systems reported by Willhelm Wein in studies of Black Body radiation and is defined in the Wein Displacement Law (15) The increase of the **mobility** of an **ion** in high **electrical field**. The mobility of an ion is somewhat decreased by the presence of the **ionic atmosphere** because the predominantly oppositely **charged** ions surrounding the central ion will tend to hold it back. This effect is included in the normally measured mobility. However, when the ion is exposed to very high electrical field, it will move so fast that it will, in effect, leave behind its atmosphere which does not have time to reform, and the mobility of the ion (consequently the **electrical conductivity** of the solution) will increase. See also the **Debye-Falkenhagen effect**.: $b = l_{max} \, T = C^2 / 4.96511423$ (e25)

And that electrolysis does not follow the usual VI curve usually associated with electronic circuits. 16"The v-i transfer function always applies. Impedance is the instantaneous slope of that function". Mathematically this can be stated resistance: $R = dV / dI$. Ohm's law, as stated, is just a specific case of the above were dV / dI remains constant for a (in practice limited) range of voltage and current. Materials where R is constant over a useful range of voltages are sometimes referred to as 'ohmic'. The "big R" in $R = dV / dI$ is NOT intended to denote a constant, since the differential term dV / dI (or slope) is only a constant in the linear case. R is a variable representing a variable resistance. R is a constant r is a variable. The issue is that the resistance of a cell is nonlinear which means that it exhibits different resistances at different operating points of voltage and current. At any given point of current and voltage, ohms law very much does apply. When you measure the resistance with a simple ohmmeter, you are measuring it at one point, a point with a very low sense voltage. The resistance is high at this voltage, the cell is barely in conduction. At a different, higher voltage, say several volts, the cells conduction increases, the resistance drops and the current comes on as observed. If you had an ohmmeter that measured at that higher voltage, it would show the appropriate low resistance. There are many electrical devices that exhibit non- linear behavior besides electrolytic cells. The common diode comes to mind. There the resistance is a function of polarity in addition to being nonlinear in the forward direction. At a few millivolts of forward voltage, most diodes have a resistance of megohms. This decreases down to an ohm or below as the voltage exceeds .7 volts. Note that these nonlinearities have nothing to do with reactance as applied to AC circuits with inductors and capacitors.

*Hydrogen is NOT just an energy carrier: Don Lancaster, co-inventor of the microprocessor, in his paper (17) EnergFun claims that Hydrogen is not in fact a fuel but merely an energy carrier.

There are only three elements in combustion, known as the combustion triangle, namely; Fuel, Oxidiser and Heat. If this is the case then Hydrogen is clearly a fuel. Every fuel known to mankind features Hydrogen in the mix: Hydrocarbons, fuel gas(es), coal and even wood all contain various amounts of Hydrogen and in the Hydrocarbons, the lengths of the Hydrogen-Carbon chains determine it's combustive potency; Ipso Facto Hydrogen is a Fuel.

Facts of the matter so often overlooked, in particular in the Internet newsgroup; http://groups.google.com/sci.energy.hydrogen by group participants is that Hydrogen is highly explosive in air. So explosive, in fact that it is considered a (18) concussive, as opposed to an incendiary explosion. And even more explosive still when the Hydrogen gas is proportionately mixed with Oxygen - there being insufficient Oxygen available in air to provide complete Hydrogen combustion (without invoking non-combustive Nitrogen). What is missed is that the explosive energy far exceeds the disassociation energy and then the onset of molecular cooling sets in.

Flame speed: Hydrogen in Oxygen 3900 meters/sec, concussive; Petroleum in air 30cm/sec, incendiary.

Satefyt: From a safety standpoint it may be propitious that when Hydrogen goes off there is little risk of colateral fire the event being over so quicky that in most cases nearby combustables cannot get enough heat for a long enough period to spontaneously catch alight. Certainly there will be colateral damage to surrounding materials, but then-again; the event is so rapid that the force accelerates past and heavier items will remain largely unaffected. Hardware involved in the event, the gas containment device - for example, will exhibit fractures and other effects of explosive energy. Protective equipment shouls be used including hearing and eye protection.

The Infrastructure Hobgoblin: In our consumer society much ado is made of our dependence on multinational corporations to provide materials for our sustenance and advancement. Notwithstanding anecdotal stories of cloak-and-dagger conspiracies, I contend that ill fate suffered by inventors in the energy field has been perpetrated by other jealous inventors and not by way of corporate shenanigans. Even if, in times past such corporations have embarked on criminal activities the world has changed dramatically. The political assemblies becoming more representative of a wider range of populace are somewhat more enlightened than was the case in the relatively recent oil crisis in 1974, dodgy dealings are less likely to be perpetrated now.

In 2005 the world faces new energy crises. On one hand the globe is nine (19) times over-subscribed in electricity generation the detraction being found in transmission inefficiencies and on the other hand global conflict and excessive demand has had a negative effect on oil supply thrusting the price of oil to record highs. There is no evidence that the world is running out of oil and there is also no evidence that it is not. Petrochemicals will always have a place in society providing us with useful products including industrial chemicals, lubricants, fuels and plastics. What is a moot point is whether recent discussions about the "Hydrogen Economy" bear any relevance insofar as Hydrogen Infrastructure is concerned. Hydrogen may be produced in almost any location on Earth, the Author envisages appliance sized gas plants placed in homes, plugged into the wall and generating Hydrogen and Oxygen by electrolysis for automotive use. The proponent drives the vehicle into the garage and connects to

the Hydrogen source which replenishes the tank(s) thus emptying the stored Hydrogen. After driving off again the appliance continues operating 24/7 refilling tanks for later use.

The foregoing becomes academic in the face of on-board, on-demand fuel systems contained within the engine bay which produces all of the engines' needs in which refueling is accomplished either by way of introduced distilled water or by the rain water falling on the vehicle during use that is then collected and distilled in a heat exchanger also within the engine bay. The question then is; what point infrastructure?

Credit where it;s due: For the most part the prototypes constructed to demonstrate the power and practicability of EGas as a fuel rest with work done in the 1970's by an English immigrant to New Zealand, namely; Archie Blue. What this writer has done is to take the kernels of Mr. Blue's work, develop and improve upon it in order to bring about devices that not only work but that also may be held up for meeting or exceeding industrial standards, materials safety data sheets and for dissemination of the information to a world-wide audience.

In this section the writer will discuss the originating invention and the work performed to improve upon it.

In the early 1970's Archie Blue demonstrated his electrolysis device to engineers in both New Zealand and Guernsey. Practical limits where the Mini that it ran on would only accomplish low speeds, use copious amounts of water and dissolved aluminium electrodes such that, although it worked, it did not work for long periods.

The original devices sighted by the author were in Agee preserving jars. Clearly the wrong material to use. Furthermore, the power supplied to the electrolysers was taken straight from the vehicles electrical system which caused excessive heating and melted wires. No work was performed by Mr. Blue to explain the devices in terms of Faradays Laws of Electrolysis. The electrolyte was Sulphuric Acid (Battery Acid) and on the application of electrical current the aluminium electrodes began to dissolve releasing EGas in the process. This EGas was then fed into the modified S.U. brand carburettor for direct induction to the combustion chambers.

What has this author done to improve upon and develop the original invention?
- The electrolysis units have been constructed of stainless steel
- Heavy duty check valves are placed at the top of each cell
- Potassium Hydroxide is added as electrolyte
- Sacrificial electrodes have been dispensed with in favour of stainless steel.
- The pressure source is added from the bottom of the cells
- The electrical supply is induced at the bottom of the cells so that no surfaces are exposed to EGas
- The pressure source is provided by gas from the exhaust
- A seperate power supply has been added that allows for voltage adjustment
- Electrical characteristics have been defined
- Harmonic resonance has been added to electrodes

The crux of the invention has been retained as it relates to using three electrolysis cells, the output from the one cell feeding the input to the next which appears to

enrich the gas evolved from the output of the third and final cell. Direct injection to the modified S.U. brand carburettor has been dispensed with in favour of using an Impco brand natural gas regulator. The new and improved unit also has safety features built into it such as pressure relief valves

Electrolysis can be made very efficient and high nineties (percent efficiency) is not difficult to accomplish. With the combination provided by way of Faradays Laws wherein temperature is maintained at c.75 Deg.C, voltage at 1.27 volts (above electrode overvoltage) and power in the kilowatts efficiency of 97.5% is not unrealistic. It must be pointed out that at these parameters the electrolytic process tunnels into an exothermic state. Although, stricktly speaking all circuits generate heat and therefore losses, they operate endothermically and all physical laws are complied with. Not-so electrolysis, clearly this state of change has an effect - in particular Ohms Law appears to break. One must now approach the calculations vis-a-vis efficiency within the bounds of Blackbody Radiation and the Wein Effect. Coming back to this "combination"; whereas Tero Ranta's data shows that better than 100% efficiency can be accomplished without addition of any other tricky bits, the notion of providing electromechanical motion using small quantities of power to release larger amounts of gas in this system will add to the output efficiency.

Summary: Before there was water there was only gas. In space water is formed by electrical discharges through reasonably dense atomic/molecular clouds. Terrestrial water was formed by three routes:
1 - Water captured from space
2 - Electrical discharges, and latterly;
3 - Cellular metabolism.

A small electrical discharge sets in motion chain reactions between Hydrogen and Oxygen in a physical event that releases orders of magnitude more energy than is required to then, in an electrochemical reaction, break apart the resulting oxide - there being no detractions from physical law when these facts are processed in their correct order. The oxide does not exist prior to the gas!.

So far as Electrolytic Gas' use as an internal combustion fuel is concerned it must be noted that the first ever internal combustion engine (20) invented in c.1807AD used Electrolytic Gas as its fuel.

Further Discussion: The most popular forum in which the vicissitudes of all things "Electrolytic Gas" are discussed may be found at

- http://groups.yahoo.com/group/watercar
- http://groups.yahoo.com/group/egas
- http://groups.yahoo.com/group/gobox
- nttp://groups.google.com/alt.sci.hydrogen
- nttp://groups.google.com/alt.energy.homepower

Please note that the terms "egas" and "egaspower" are proprietory, copy protected - the trademarks owned by the author.

Further Reading: All about water: http://www.lsbu.ac.uk/water/index.html

Not necessarily quoted in this paper: - North American Combustion Handbook. Chemical Process Industries.
- Quality Control : Crown Research Limited. C/- Dr. Tony Clemens. Dr. Robert Neil Boyd
- About the Author: http://203.97.251.40/cv.pdf
- Addendum : Items in this paper marked thus are incomplete

References:
(1) 2006 ; (2) 2002 ; (3) Also called: Water Gas, Rhodes Gas, Browns Gas ; (4) Other formulations appear to show this figure may increase to 120% and more.
(5) Organic Chemistry, Morrison & Boyd, Allyn and Bacon, Inc. LCCCN:66-25695.
(6) www.ktf-split.hr/periodni/en
(7) 'Fuel from Water' M.A. Peavey. Merit, Inc. LCCCN 88-188956 ISBN 0-945516-04-5 Page 22.
(8) http://www.physics.ohio-state.edu/-lvw/what/ads/adxe.html
(9)http://www.lsbu.ac.uk/water/vibrat.html ; (10) Courtesy Tero Ranta ; (11) 'L' = Litres ; (12) Courtesy Tero Ranta ;
(13) CRC Handbook of Chemistry and Physics, 84th ed. ; (14) Faraday's Law requires a temperature of circa 75 degrees Celcius ;
(15) http://electrochem.cwru.edu/ed/dict.htm#w01 ; (16) http://sci.energy.hydrogen
(17) Reproduced, see Apendix 1 ; (18) Proprietes of Hydrogen Combustion. NACA report 1983.
(19) http://www.wired.com ; (20) De Rivas

PETER LOWRIE, Water Electrolysis for Combustion Engine from 'D6.pdf' available at http://www.panaceauniversity.org/D6.pdf

Peter is developing a water electrolysis system for internal combustion engines. To date, he has managed to run a 1,66cc engine for 17 minutes on water alone. The engine block remains cool but flame comes out of the exhaust pipe, which causes it to become very hot. Also, the engine runs flat out and cannot be thrttled back. Presumably, this is due to excessive amounts of hydrogen entering the engine, so a method of increasing the proportion of air in the mix appears to be needed. The really important point is that there is excess energy in the system. There are two possibilities: either the water contains energy which has not yet been discovered and documented, or additional energy is coming from somewhere else. ...

The system which Peter is using is unusual:
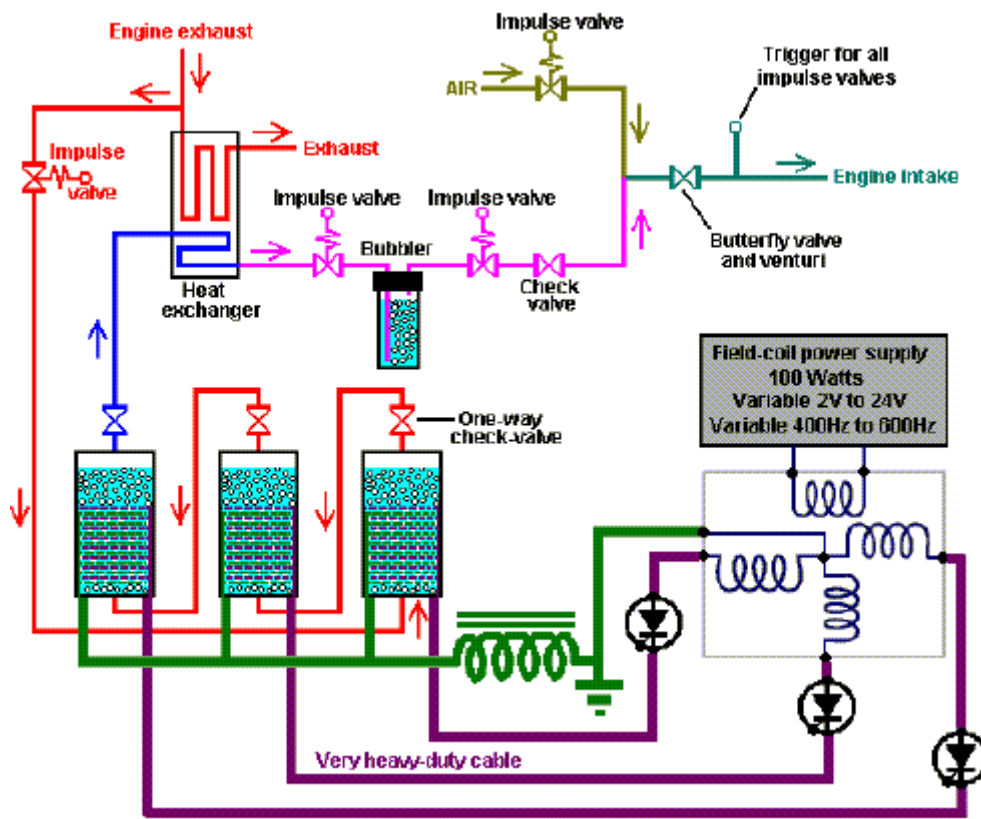
Peter uses a GEC delta-wound, marine alternator which he modifies by removing the diodes and leading each of the three phase-windings out to his electronics. He uses each of the three phase-windings to power one electrolysis cell. As he only wants about 1.5 volts across each cell, he applies about 2 volts to the DC winding of the alternator, which is about the minimum for the alternator to work.

The DC current supplied is less than one amp while the pulsed current to the electrolysis cells is much higher. When a snap-on ammeter surrounds the wires to the cells, a current of 800 amps is displayed. It is likely that this style of ammeter is calibrated for sine-wave alternating current, and so the actual RMS (average) current is almost certainly different to the displayed value. What is certain, is that the current supplied to the cells is enormously higher than the DC input, and it may be in excess of the 800 amps displayed.

A point of particular interest is the inductor placed between the electrolysis cells and the windings of the alternator. Peter describes this as a choke out of 3-phase industrial power supply. It is comprised of a laminated steel core with a sheeet of copper wound around it. This is remarkably like the arrangement used by Edwin Gray's power tube which picked up sufficient Radiant Energy to power an 80 horsepower electrical motor. Edwin's device used two or three cylinders of perforated copper sheet surrounding a conductor which was fed with 80 microsecond unidirectional pulses. This inductor is so similar in construction that it might not be unreasonable to suspect that the steel core mught have very short electrical pulses induced in it, generating radiant waves of Radiant Energy which are picked up by the copper sheet winding and fed into the system providing a major additional source of energy for the electrolysis. This may well be the reason that this system produces easily enough gas

mixture to run an engine.

As the motor is supplying mechanical power to the alternator shaft, it is not possible to say that there is a current gain of 800 times. What is certain, is that there is indeed a pick-up of external energy in this system. This can be expected, as a sudden pulse of large current into each cell will generate a major magnetic pulse which in turn may well tap the external energy field. This is very like the effect experienced by Ed Gray, Robert Adams, Tom Bearden, Floyd Sweet and others, when they produced large rapidly-changing magnetic fields. As remarked above, Peter's engine couldn't run on water alone without gaining extra energy from somewhere - don't forget that the engine produces the mechanical and DC power fed to the electrolysis units. To sustain the engine running, the system has to be over 100% efficient. As an engineer, I can assure you that Peter's engine is not over 100% efficient, and yet it does run, which shows condusively that it is picking up extra energy from somewhere. I expect that in the near future, we will be able to say from where the extra energy is coming.

A comment from a member of the Yahoo 'egaspower' Group: 'When I joined this group in March, I saw for the first time Peter Lowrie's statement that the power out was 8 to 11 times that of the electricity required. I didn't quite believe it but thought that you might just get the engine to idle based on George Wiseman's calculations that the monoatomic molecules where giving almost 4 times the energy of diatomic ones.

When I first tried it, my motor ran at the full 5,500 rpm and not at an idle as I had expected. The power generated in Peter's mode of operation is about 39 times what you put in if you allow for the fact that the motor is only about 25% efficient. I then loaded my motor to the full rated load and found that there was no lack of power. I have not completed the last step of returning the exhaust to the input of the cells, but I have every confidence that what he says he is doing is indeed a fact.'

It is not a device whose output power exceeds it' input power. However, this device is very significant in that it raises the efficiency of an internal combustion engine, and in doing so, achieves a reduction in the amount of fossil fuel being burnt in the engine. This makes it unpopular with the oil companies whose objective is to sell as much fossil fuel as possible, at as high a price as possible.

Adds from 'D9.pdf' page 8-9, a Patrick Kelly file on different Electrolysers, available at http://www.panaceauniversity.org/D6.pdf

Peter Lowrie has succeeded by increasing the current to where a clamp-ammeter shows between 800 and 900 amps flowing into each of his three Archie Blue style electrolysers. This produces enough hydroxy gas to run the engine and produce the electrical power for the electrolyser cells by driving an extra alternator. His design uses a marine alternator, driven by the engine, to apply pulses of electrical power to an electrolyser cell attached to each of the three alternator windings. Peter's design uses a heat exchanger to heat the gas coming from the electrolysers, before it is fed to the engine. The cascaded electrolyser cells are fed from the engine exhaust, with the volume controlled by an impulse valve. When the engine runs faster, the trigger impulses from the manifold vacuum increase in frequency, feeding more exhaust gas into the electrolysers.

The hydroxy gas, mixed with Nitrous Oxide, Carbon Monoxide and Carbon Dioxide (from the exhaust gases) is heated and passed through a flashback arrestor bubbler, which has an impulse valve positioned on each side of it. The heated gas mix if then passed through a check valve and mixed with air, whose inflow is also controlled by an impulse valve. A final butterfly valve sets the flow to the engine intake.

If the engine stalls, the trigger impulses to the impulse valve stop immediately and the electrolysis current stops as the alternator stops running. The electrolysis cells are intended to run hot at about 85 deg.C. When the engine is started from cold, the pulsed voltage applied to the field coil of the alternator is set at 24 volts. When this increased power level starts to heat up the electrolyte in the cells, the voltage to the field coil is reduced proggressively, until it reaches the 2 volt level, where very little power is taken up in heating the electrolyte.

An electronic circuit (not shown) is arranged to fire the very powerfull Silicon Controlled Rectifiers (SCRs or Thyristors) at the voltage peak of each output cycle for its electrolyser cell. The coil shown between the cells and the earth (engine chassis voltage) comes from an industrial 3-phase power supply. It is of very heavy construction to ahndle the very large current, made with insulated copper strip wound around a steel core. Each cell will have a controlled water-supply system as the water levels will fall rapidly due to the very large volume of hydroxy gas being produced.

It has been suggested that the circuit would be more efficient if the half-wave SCR circuit shown above were replaced with a full-wave arrangement. This has not been tried yet, but a number of problems arise with that idea. Firstly, the cables carrying the current to the electrolyser cells, show a reading of 900 amps when a standard clamp-ammeter is placed around the cable. That is a very large current, requiring exceptionally large cables to carry it effectively. If a full-wave circuit is introduced, then the power diisipated in the cables will be doubled. This is liable to cause problems unless the already expensive cables are increased in size. Secondly, the frequency of the field coil electronics will be doubled as there will be twice as many voltage peaks per second, so the circuit timing components will need to be changed. Thirdly, the SCRs are already very expensive due to their very high current handling capacities. If full-wave operation is introduced, either there will need to be twice as many expensive SCRs, or Triacs of even higher specification will need to be used. Since the design works well in its present form, there does not appear to be any reason to modify it.

Intimidation in India:
We are familiar with the suppression of free-energy devices. In the USA there have been literally thousands of cases - for example, **Bill Williams** for running his truck on a **Joe Cell, T Henry Moray** for pulling kilowatts out of the environment and **Ed Gray** for daring to have a power tube with an output power 100 times the input power.

In Australia there is intense opposition to anyone using the **Nitro Cell** on any engine. In New Zealand, to the magnetic motor of **Robert Adams** which is 700% efficient. In

the UK, to devices for water-splitting and permanent magnet motors. In Japan to **Teruo Kawai's** patented magnetic motor which is 160% efficient.

But in the last week there has been an instance of it in **India**, in spite of the fact that the bus service in **Mumbai has been run on hydrogen for some years now**. A man, who wishes to remain anonymous in order not to aggravate the current situation, has just been picked on. He has been running a business for the last 23 years and has a good relationship with his local Commercial Taxation Office staff.

He became interested in **Dave Lawton's replication** (MDG: article above) and decided to try it for himself. These pictures show his high standard of workmanship.

Ravi's Meyers/Lawton Replication

He encountered a minor problem with his implementation of the electronic driving circuit, and so contacted Dave Lawton for technical advice. This was given and the problem solved. He then e-mailed Dave some pictures showing his progress. Within 8 hours, his premises were raided by nine people supposedly from the local Tax Office. In actual fact, six of them were from the local office and the other three were unknown to the locals who had been ordered to take them along. During their search of the place, the man was told that he would be well advised to discontinue all work connected to hydrogen.

That shows clearly that the "raid" had nothing whatsoever to do with taxation and the Tax Office was just being used as an excuse to invade the privacy of an individual. They spent six hours checking everything eventually left, taking commercial records with them, and subsequently requested that our friend attend their local office on Wednesday (the day before yesterday). He attended, sensibly taking people from his business as witnesses. The six local officials were there and they returned the records taken, stating that there was nothing wrong with the records or the tax position. They also said that they were bewildered by the whole affair. He asked them about the other three men, and they said that the Commissioners office had asked them to take them along....and they have no idea who they were!

He then had a long conversation with the Deputy Commercial Tax Officer who had came over to his place. He also seemed confused as to why they were hurried up to go over to my place from the Commissioners office. He said that the Commissioners office received a complaint from some higher authorities and these people were given written instructions (an unusual thing in itself) to go to his office and make some checks, usually this happens but the visits are done after 3-4 days of the receipt of the letter from the Commissioners office based on the time allotment, but in this case

there were 4 calls directly from the Commissioners office to go over to his place immediately !!

This is a typical case of deliberate intimidation and it is unusual only because it is in India. It also shows that Dave Lawton's e-mails are being intercepted and read as this man did not mention his hydrogen work to anyone else. Dave once made the mistake of applying for a development grant from his Local Authority. The grant was to help develop one of his inventions. He was visited by two unpleasant individuals who took away his written proposal. Nothing ever came of it and when Dave asked for his documents back, they lied, saying that they has posted them. When he pressured them, they did eventually send the documents back, and the date stamp on the envelope shows that the documents were posted long after they originally claimed that they had been sent. It turns out that these men have no connection with the Local Authority Grants section and it seems clear that they fall into the same category as the three "unknown" men in India who carried out the raid. presumably, Dave's phone calls and e-mails have been intercepted and monitored ever since and that is what triggered the raid in India.

The raid in India is very interesting in that it shows clearly that the opposition are very much afraid of Stan Meyer's Water Fuel Cell. This implies that the cell is capable of producing serious amounts of free-energy and can break our dependency on fossil fuels. Patrick Kelly-2nd February 2007.

Update :
It Seems the spooks are trying to scare Ravi again ; Quote from a recent email sent to panacea:
"I have just received a call about 5 mins ago on my land line asking me to stop posting on the forums and youtube. If I still do they said that someone will have to visit me personally to take care of it. I dont have a caller ID on the line. This person had a British accent.

Please try and save all the posting till now on I dont know if I can post anymore...but i'll try keep in touch".-End

Ravi and any one experiencing this is to file a complaint with the local police so that it is on record and give them all details. Send us (panacea-bocaf.org) the address of the police station and the name of the officer and the time he logged the report.

The other thing is to get Ravi the find out the names of the people who visited him from the Tax Office and the positions they hold. Give the names to us and the name of the person in charge.

The good news is that the device has serious potential if they are trying to stop Ravi from finishing his research and development. You too can help by learning all there is to learn about the Stanley Meyer Water Fuel Cell, the Dave Lawton replication of it, and the available information on Ravi's replication. We would recommend consulting Overunity.com , Youtube (search for Ravi Water) and getting in touch with Panacea-BOCAF when your research starts progressing.

See Ravi's videos:

RAVI 'S STANLEY MEYER REPLICATION WATER FUEL CELL-001.
August 11, 2007. From: raviwfc, http://youtube.com/user/raviwfc :
http://youtube.com/watch?v=2vzTzqpp-Uk

RAVI 'S STANLEY MEYER REPLICATION WATER FUEL CELL-009.
Added: August 27, 2007. From: raviwfc, http://youtube.com/user/raviwfc :
http://youtube.com/watch?v=mMSUe76PZLQ

- Comment from oystla, http://youtube.com/user/oystla : Totally incredible! 150 ml in 20 seconds at 12Volts / 0,5 amps results in 1162 Joules of Hydrogen produced (hihger heating value) and only 120 joules consumed. This assuming gas collected is at 20 degC, including saturated with water vapor. Stochiomteric H2/O2 mixture with water vapor will contain 7744 KJ H2 energy pr liter collected gas...

- Comment from Rufe0, http://youtube.com/user/Rufe0 : looks like 150ml/20sec, 450ml/min, 133.3sec/liter. That works out to 0.22216 watt-hours per liter which would make it 1080.3% efficient.

--- **Return to the top**

Ravi Raju posts on the very DYNAMIC Overunity.com forum
http://www.overunity.com/index.php

Topic: Stanley Meyer replication with low input power (Read 18168 times)
http://www.overunity.com/index.php/topic,3079.0.html

- **ravzz, on: August 18, 2007, 08:39:57 PM** :
Check the following videos:
1. http://www.youtube.com/watch?v=2vzTzqpp-Uk
2. http://www.youtube.com/watch?v=FNJ_vjuO_ME
3. http://www.youtube.com/watch?v=-1lScTsHBkQ
1. http://www.youtube.com/watch?v=fiyfwWuA9gA
1. http://www.youtube.com/watch?v=nto66FTfdTg
1. http://www.youtube.com/watch?v=BqSyTiPu8VI

For all the info on these videos you could go to http://www.oupower.com/
Discussions.......than hydrogen forum.

You could copy all the info i've posted there under the user name ravzz and post it here if need be. Just thought i'd help as many people to replicate my WFC before im stopped again. Regards, ravzz

- **ravzz, Reply #5 on: August 20, 2007, 08:11:27 AM** :
Japanese Hokkaido University experiment which achieved some mind boggling results and was also replicated by JL Naudin... These guys went OU with the generation of Hydrogen. Their experiment and results link
http://lenr-canr.org/acrobat/MizunoTgeneration.pdf As per their conclusions: 'current efficiency' is 8000% to the input!!!

I'm not here to argue wether things work as per the preset laws of physics or thermodynamics but you need to keep an open mind to evolve and see if something actually works.......I'm and engineer and been taught that things dont work if you break the laws....well I know my laws...thank you.....I've been making cells for the last 8 years but now Ive got something that works......and if people want to replicate it they can im giving out info on how to do it.....if they dont want to.....fine by me!....im getting nothing nor losing any thing by this....Stan wanted to sell his units......well im not.......this is for the people who are already trying it out and who want to....

Now the reason why i wanted to post the replication info.......(Ive posted the following for Bob Boyce on oupower)....

Its time we did something about the environmental mess the world is in.....its accelerating by the year and it wouldnt be long before that the powers be would realize that most of these changes are irreversible ......Vanishing Glaciers......melting polar caps.....Europe has seen the hottest summers in living memory.......and now Asia is going through the worst floods in the living memory.......we are heading for a disaster and have already reached a point of no return with the fossil fuel addiction.......time we make ourselves count....by helping others to make this technology feasible and easy to replicate......whatever small contribution.....no matter how much ever small to improve the air we breathe would go a long way for our childrens future......

We need people to know this side of science before its too late.......look at the change in the environment in the last 100 years......in the garb of development were ruining the world we live in for the future generations and we are shown a picture of development as prosperity.....actual fact being more the prosperity more we ruin the environment for our creature comforts......its a vicious cycle....we could introduce the alternate science at places where its hurting the environment the most atleast in a small way....

Bob lets see how they take this experiment and what they make of it...I wouldnt be surprised if some hooter comes onto the forum and starts rubbishing the work to make atleast a few people stay away from experimenting this setup....

I'm just hoping that the risk im taking in teaching people how to make this expt work wouldnt be for nothing!! I've been through some harassment before and can go through some more if its for the greater good.

Guys ive posted all the info needed for replication if you want to or not is upto you!.....well my work here is done!! GOOD LUCK!!

- ravzz, Reply #6 on: August 20, 2007, 11:10:56 AM :
Dyiamios should know that everything in universe is capable of resonating, even the energy itself. Let's talk about laws:

Still in hydrogen production (by means of electrolysis of water) science is using Faraday's law that uses only current strenght as relevant for ammount hydrogen

produced.

This Faraday law can be seen here in action :
http://www.overunity.com/index.php/topic,1245.0.html : 130W

But this pulsed (probably resonating) setup proves that Faradays law can not be applied with pulsed DC: production of O2 H2 is allmost identicall with 1A as I am producing at 30A.

- ravzz, Reply #8 on: August 20, 2007, 12:37:57 PM :
I've posted a lot of data on the following link...theres everything you need to replicate in the discussion page http://www.oupower.com/phpBB2/viewtopic.php?t=1602

incase this link doesnt work then go here to the main page for hydrogen forums
http://www.oupower.com/phpBB2/viewforum.php?f=1
then go to 'Ravi's Meyer Replication - Tap water to H2'

Most of the questions you might have would have already been answered there....incase you need to know something else post it here or on the oupower forum so that I wouldnt have to answer the same thing again.

- ravzz, Reply #15 on: August 21, 2007, 07:32:38 AM :
I've used 1.2mm dia SS 316L wire to connect the pipes....so if you have seen video 6....im doing exactly what you suggested....connecting 4 sq mm copper wires up to the bottom of the WFC....the leads are resin bonded to the WFC casing to prevent leaks...so at present im trying to reduce the length of the leads up until the bottom of the WFC...some of the leads have started leaking now so this needs to be rectified first.

Any Ideas on why the efficiencies coming down when higher amps are given to the freq gen?

- ravzz, Reply #20 on: August 21, 2007, 06:07:58 PM :
He is using: http://panaceauniversity.org/D14.pdf

The circuit given on page 7 with the inductors is what gives the highest efficiencies. The inductor on both positive and negative is a must. Why would you want to build one with the alternator? from what I can remember the page 7 circuit doesnt have an alternator and you can power the circuit with a DC 10A converter like I did or use a plain heavy duty battery for getting the output. If you want to experiment with the other circuits in the document then its ok.... Good luck!!

There is another difference that needs to be noted compared to Dave's Replication. I didnt remember the exact gap between the pipes till patrick just asked me what were the differences between my setup....sat down and calculated....

The gap in between the pipes was: Outer Pipe OD : 25.317 mm ; Thickness : 14 SWG or 2.032 mm ; Outer Pipe ID : 25.317 - (2.032 x2) = 21.253mm
Inner Pipe OD : 19.930 mm ; Thickness : 14 SWG or 2.032 mm ; Gap is 1.323mm
(21.253 - 19.930) and this adjusted to both the sides as the inside pipe is centered is

1.323/2 = 0.6615 mm on either sides of the inner tube.

So effectively **the gap between the pipes is less than 0.670 mm**. I went for a lesser gap by increasing the thickness of the outer tube.

If you go through **Stans Canadian Patent he mentions that the lesser the gap between the pipes more the efficiency**. I had a lot of difficulty in the alignment of pipe as they were shorting. Had to get them straightened on pipe alignment machine.

Wouldnt advice people without engineering skills to go for this small a gap. The higher output of my setup could be due to the smaller gap aswell.
===========================

Posted by Kumaran : Hi Ravi, According to my calculation **you got 644.62% OU**.
Liter : 16.776 ; Seconds : 3600 = LPM : 0.2796
Voltage : 12 ; Amp : 0.51 = Watts : 6.12

Your cell efficiency : <u>0.36 Wh/L</u> ; Faraday efficiency : 2.3516 Wh/L (varies depending to atm pressure) = OU : 644.62%

No doubt on efficiency. Just need to push the system a little bit further to produce more gas while maintaining the efficiency. Great job.

- ravzz, Reply #23 on: August 22, 2007, 05:57:49 AM :
Thecell: I'm using Nichrome 80/20 Resistance Alloy wire in 1.6 mm diameter as the variable resistor. This has resistance of 0.52 Ohms/mt. I remember mentioning this on the oupower discussion board....but i dont think I mentioned the grade or size of the resistance wire used over there. The efficiency of the cell comes down initially if I dont use it for about three to four days but about ten to fifteen minutes after its switched on it gets back to the higher efficiencies. Is this what you meant by cell discharge.

If you go through Stan's patent 4,798,661 on page2 Figure 1 these variable reritors are designated by the numbers 60a to 60n which are individually connected to each of the inner tubes.

I have not tried the immersed excitor array in figure 1 this could probably increase the efficiency even more!

There should be very high voltage at the cell as I remeber **<u>Dave saying something about seeing a glow from between the tubes when WFC is run in the dark</u>**.....could be HV discharging.....I havent checked for this though...

... Yes I used 12 Volt 10 Amp AC to DC coverter as the input to the Freq generator and the reading you see in the videos are the current draw from this converter (the wires are the input leads of the freg gen).

- ravzz, Reply #28 on: August 22, 2007, 01:12:03 PM :
Faraday's is 2.4 watts / hour / liter. Volts x Amps = Watts

My cell: 12 x 0.51 = 6.12 watts ; the generation is around 7 cc/sec of H2 + O2 ; This converts to 4.66 CC of H2/sec ; which converts to 16.776 Lits / hour

16.776 x 2.4 watts (Faraday/lit/hour generation) = 40.262 Watts . Well I seem to be generating the equivalent of 40.2 watts as per Faraday with just 6.12 Watts.........I hope this answers Kumaran's question aswell.

I dont know if im right but I seem to be generating 550% excess ; as the above works out to 40.2/6.12 x 100 = 656.86% ; 656.86 - 100 (Faraday) = **556.86% OU !!** Correct me if im wrong with the calculations.

I remember watching on one of **Stan Meyer Videos where they mention the Output to be over 1700% faradays**....I guess there's more work needed to be done in this direction.

Dave's unit was 250% OU mine looks a little higher....one of the reasons I think is because my unit is comparitively bigger 9" length 9 tubes compared to Dave's 5" length 6 tubes. Stans was 18"length 9 tubes...double the size of my WFC.

Another reason for higher efficiency could be Dave's gap between the tubes was 1/16" or 1.5875 mm and mine was lesser at less than 0.670 mm....calculations posted by Stefan above. I'm using individual leads to each pipe in the WFC.

- H2EARTH, Reply #30 on: August 22, 2007, 11:26:26 PM :
... The Meyer WFC works, and we have multiple examples of HHO being created at 1.5 wh/ltr, 0.383 wh/ltr., and even 0.0 wh/ltr. When the free electron current released from the water is counted, they are all net current producers, and, in effect, the Hydroxy is then better than free from an energy standpoint.

First, there is no similarity between AC current and pulsed DC as employed in the WFC. Second, the compound resonance in the WFC is clearly evident to experimenters. There is an electrical resonance between the inductors (Resonant Charging Choke coils), there is an electrical resonance within the intraelectrode gap itself within the water, and, finally, there is an acoustical resonance between the cylindrical electrodes, which is somehow phase coupled to the electrical resonances. The electrical resonance involves a phase delay between the pulses to the electrodes, which has the effect of inhibiting current flow into the cell; the acoustic resonance produces a standing wave which inhibits ion transport. Both of these contribute to dielectric breakdown in the water, which is where electrons are ripped from the water (by voltage alone) producing gas in the process.

Actually, what about the Water Fuel Cell even resembles electrolysis? 1) There is no electrolye; 2) There is NO current admitted to the water, in a proper system; 3) No heating occurs in the water as it produces gas; 4) The gas produced is Hydroxy (aka HHO or "Brown's Gas"), not differentiated Hydrogen & Oxygen; and 5) All of the work is performed by voltage potential alone.

- ravzz, Reply #35 on: August 24, 2007, 08:08:25 AM:
I've uploaded two more videos with the new leads connected up until the bottom of the WFC. A lot of small bubble generation this time around. WFC gets fogged up.

Need to check if there's any improvement in the outputs. The leads dont get hot....but need to check with prolonged use. WFC leaking...so cant do the gas output test right now. This thing will take time I guess.

1. http://www.youtube.com/watch?v=-WsKOdxLIJU
2. http://www.youtube.com/watch?v=u9XrLOudwRw

- ravzz, Reply #36 on: August 24, 2007, 02:24:57 PM :
The following images were taken when I was conditioning the WFC a few months ago. Initially the outputs remained ver very low but gradually increased with the conditioning progressing... Don't worry if the generation is low at the beginning

- First pic is conditioning at 2 Amps. photo_099.JPG (18.19 KB, 640x480 - viewed 565 times.)

- Second pic is scum on the surface in between conditioning. photo_100.JPG (20.78 KB, 640x480 - viewed 552 times.)

- Third pic is scum at the end of the conditioning...when you need to change the water for the next round of conditioning. photo_104.JPG (22.27 KB, 640x480 - viewed 556 times.)

- Fourth pic is generation at 5 Amps. photo_107.JPG (21.26 KB, 640x480 - viewed 560 times.)

- Fifth pic is scum again. photo_111.JPG (24.46 KB, 640x480 - viewed 553 times.)

- Sixth. photo_115.JPG (25.24 KB, 640x480 - viewed 547 times.)

- Seventh and Seventh pics are the scum holding on to the tube edges which need to be cleaned with a brush only...do not touch the pipes with bare hands. photo_116.JPG (32.4 KB, 640x480 - viewed 544 times.)

- ravzz, Reply #38 on: August 25, 2007, 06:08:43 AM:

About http://www.youtube.com/watch?v=u9XrLOudwRw

Yes the current draw by the freq gen is 12V 0.5 Amps its from 12 Volt 10 Amp DC converter that I use. The current reading you see is the input draw to the freq gen from the DC converter. Everything you need to make this unit is in the updated D14.pdf in the link below http://panaceauniversity.org/D14.pdf

including the inductors....which are very very important. Then comes the conditioning which is crucial....how to is posted on oupower. Its a specific procedure that has to be followed!

Dave who was the first to replicate stan meyer system had got outputs in the range of 250% OU (without the inductors, should be more now...he hasnt talked about the outputs with the inductors). I have made my system based on his inputs and all these inputs on how you can get these kind of outputs are already posted on the oupower forum and partially here.

No I dont have a scope. My system was slightly modified and I have so many leads going in as I can control the number of tubes that can be operated without opening the WFC. I have 18 leads coming out of the WFC 9 +ve and 9 -ve.....with this I can run on one tube or six like daves or all 9....you basically have an easier control on the number of tubes to be used for experimentation without dismantling the WFC. Dave's and Stanleys systems had a spacing of 1/16" (1.5875mm) and my pipes have a gap of less than 0.670mm (could be the main reason for the higher efficiency in my unit) and im using 9 tube sets of 9" length and the inner being 1/2" more than the outer for connections. Dave used 6 tubes of 5" length for his 250% OU. Stans were 9 tubes of 18" length on his demonstration electrolyzer and in one of the videos available, there are claims that he's making 1700% OU over Faradays. When compared to this efficiency I still have some more work to do. Dave's electrolyzer generating HHO with inductors as per the updated D14..... video link... http://www.youtube.com/watch?v=OiA4z_Kpgg4

Stefan the excess gas outputs were documented quite sometime ago by Dave. There are a few people who have connected the D14 system to vehicles.....here's a link....this guy claims his mileage increased from 28 miles/gal to 45 miles/gal....thats an increase of 17 miles per gallon.....he's even showing you how you can tune a WFC with an AM Radio!!... http://www.youtube.com/watch?v=9fFp3CJZMTw

Everything you need to make this system is in D14 and the data which is required to make this system efficient and how to go about it has been posted by me on the oupower and here. You get very very low gas generation in the beginning when you are conditioning like you see in the pictures above and below. I dont know why it works the way it works or the theory behind why or how it works.......it just works!......Make it follow the procedure and you will achieve OU over fardays!!! I've put in efforts without thinking it would fail and it didnt...

I'm posting a few pictures of WFC under construction and progress.... The wall

thickness of both the pipes is 14 SWG or 2.032 mm

@ 019_OD_of_Outer_Pipe.jpg (132.69 KB, 640x480 - viewed 493 times.)
@ 020_OD_of_Inner_Pipe.jpg (124.21 KB, 640x480 - viewed 492 times.)

@   021_pipes_setup_01s.jpg (141.41 KB,
640x480 - viewed 485 times.)

@ 026_pipes_setup_06.jpg (152.34 KB, 640x480 - viewed 494 times.)

@
034_pipe_setup_seated_in_base.jpg (160.15 KB, 480x640)

@ 036_pipe_setup_seated_closeup.jpg (129.37 KB, 640x480 - viewed 483 times.)
@ 061_Before_Conditioning_02.jpg (117.69 KB, 577x375 - viewed 473 times.)
@ 062_After_1st_generation_of_hydroxy.jpg (113.62 KB, 640x480 - viewed 471 times.)
@ 063_Conditioning_n_hydroxy_gen_D1_01.jpg (93.12 KB, 640x480 - viewed 464 times.)
@ 064_Conditioning_n_hydroxy_gen_D1_02.jpg (100.75 KB, 480x640 - viewed 12 times.)

- **page 4, ravzz, Reply #52 on: August 27, 2007, 07:06:43 AM** :
12" is fine. Well I went in for 9" when Dave's was 5".....you could probably throw some light on what modifications might be needed if you use longer tubes. Stan used 18" tubes so maybe I should try making a setup with 18" length tubes now.

#1. Yes the SS wires act as resistors. The specificresistance of 316L is around 75

Micro-Ohm-cm and that of copper is 1.72 Micro-Ohm-cm. The leads heat up when higher amps are drawn by the freq gen....you can see this in the videos I posted. I've replaced the leads upto the bottom of the WFC with 4 Sqmm double insulated copper wire and the heat generation did come down. I need to check if theres any increase / decrease in generation.

#2. I have spot welded the 316L wires to the tubes. Used silicone to keep them in place and avoid shorting. The tubes are plastic for insulation. Yes you can use copper wire sealed in silicone sealant. Cover the exposed copper leads in the water with silicone sealant as well.

#3. Stan's patent 4,798,661 figure 1 has variable resistance connected to each of the inner tubes with numbers 60a....to 60n, this was what I was talking about. This is a variation you can try much later on.

Hydro: When I tried conditioning the tubes at 3A to 5A range.....the resistors got burnt so I got them replaced with higher wattages. Its as simple as that.

- page 4, ravzz, Reply #59 on: August 27, 2007, 04:37:05 PM :
Yes the tubes are Bright Annealed. You can use sand paper on the outside of the inner tube and the inside of the outer tube. See to it that you use a small grit so that you get small scratches on the surfaces....I used grit 100 with cloth backing as it can withstand the curved surfaces well.

- page 4, ravzz, Reply #60 on: August 27, 2007, 04:54:48 PM :
Alright People some have been very skeptical about the volumes I mentioned....so this video is for especially for them!! Sorry about the bad quality....the natural light wasnt there like in the videos 7 & 8......so you need to adjust with this till I make a fresh one with better lighting.
http://www.youtube.com/watch?v=mMSUe76PZLQ

Well Hydro looks like you were right the WFC seems to be producing more!! 1.31min into the video the gas collection was started and stopped at 1.51min of the video......20 secs to be exact. The gas collected was over 150CC could be 160 / 165CC.... As some might say that there could be Steam / Vapour / Mist......lets just take the output as 150CC in 20 Secs.

This comes to 7.5CC of HHO/Sec at 0.48A - 0.50A. Last I checked with the old leads was 7.0 CC HHO without any thing removed from the generation.

(MDG nov07: 7 cc HHO/sec => 420cc/minute = 25.2 L/hour for 6 Watts/hour => **0.24 Wh/L**, exactly 10 times better than Faraday's maximum (2.4Wh/L) = **1.000% efficiency** !)

ravzz
Newbie
Posts: 26

Re: Stanley Meyer replication with low input power
« Reply #73 on: August 28, 2007, 08:35:02 AM »

ppl i have a prob ...cnat post any more
good luck

- Reply #88 on: August 29, 2007, 11:43:36 AM :
There is no reason For Ravi to Compile anykinda List and txt's etc for you, Ravi
Came out into the open with his findings, and if you where listening you'd know how
to do it,.

He said, Anneal your pipes, he said condition them, i'm not posting the instruction
because they're findable on the forums, he said do not use any resistance when
conditioning. he said use the lawton schematic thats been updated. He said the
conditioning of the tubes Is time consuming, you want get rid of the brown muck in 2
days!

It took him 3 months to condition his tubes based on what you see in the video. He
said Sand the inside and out of the tube after anealing, also to anneal in N type of gas.

The inside is Negative, The out Positive. Change water after every cycle, Dont leave
muck, Change water TIll you think you're about to fall over dead. The .50 amp high
hydrogen output can be achieved with the lawton circuit alone. he just bettered it.

Now, i say. Condition your tubes, you'll notice a White haz look to the Negative
electrode over a periode of time, you'll prolley notice the water looking orange, and
also that the positive electrode is ugly, and has no white haze. you should then Switch
polaritys for a while to get the positive tube to match the negative one, when you have
gotton this for you'll notice the water is still orange, and you can look into the
container and wow yourself with how much hydrogen it's producing. The goal is to
get the orange out of the water.

He has instructions for how to condition after being annealed. i have them to, so add
this to his instuctions because their totaly different. Start with 3 amps if you can
handle it, if not then 2, run the shit out of it till you see about an half inch of muck,
change water and repeat for 2 days. after everything apears to be normal, take the
tubes and run them under water, looking threw them to make sure they're not clogged,
if they're then dissasemble, clean with detergant and start over. dont worry, you can
clean without removing the white haze.

repeat repeat repeat . if you would have noticed he did take the time to tell you the
volts and amps used, and when you are farting around with phisics and making water
glow orange anythnig is possible.

Take this, save it, don't loose it, spread it, GOOD LUCK, I hope you'll listen to this
post rather than obviously not reading his post, thats why i know what you dont.

Good luck with the conditioning and don't pull all your hair out. Oh, my opinion is
when you start getting cleaner water you can start droping the amps to condition, but
he also has a diy condition instruction guide, i havent tried it.

- Reply #109 on: August 30, 2007, 12:26:43 PM :
Important Info from OUPower.com posted by RAVI as user ravzz: THERE COULD
BE THINGS YOU MISSED OUT OR LOOKED OVER

... To SeaMonkey and MarkinAustralia :
I initially started off with Dave's circuit.....was in touch with him to sort out a few issues with the circuits the went on to make a few improvements. You could say that Dave's circuit was the skeleton where i started off but had to make some changes. Of the original circuit i had a few burnt/blown out components and low gas generation as my setup is with 9 tubes of 9 inch lengths and his was 6 tubes of 5 inch lengths so the exposed surface areas are comparitively higher. From what I presumed Stan used tubes of 18 inches so I went for half his length but the same number as in his video.

Material used is 316L seamless pipes. Annealed for 3 hours in inert amosphere of Argon to remove all residual magnetism and cold work stresses before they are assemled. Leads used are 316L 1.2mm dia wires to all 18 pipes individually spot welded. The inner pipe is 1/2 inch longer than the outer at the bottom for the setup for connections. You need to be very patient with the conditioning of the pipes.....it took me months to get the generation you see.

Volts x Amps = Watts ; 12 x 0.51 = 6.12 watts the generation is around 7 cc/sec ; which coverts to 16.776 Lits / hour ; 16.776 x 2.4 watts (Faraday/lit/hour generation) = 40.262 Watts

Well I seem to be generating the equivalent of 40.2 watts as per Faraday with just 6.12 Watts.........I hope this answers Kumaran's question aswell.

I dont know if im right but I seem to be generating 550% excess ; as the above works out to 40.2/6.12 x 100 = 656.86% ; 656.86 - 100 (Faraday) = 556.86% OU !! Correct me if im wrong with the calculations.

Alright now to the crux of the situ... I dont know how long i'll be allowed to post this stuff over the net as initialy when I was in touch with Dave I had sent some pics to him and my place was raided within a few hours after the mail to him. I was kind of helped out during this time by Dave and Patrick Kelly.Though ive had success a few months ago I had not come out in the open but now Ashtweth of Panaces Bocaf has convinced me to go public as this could save me any more future harassment.....Im taking a huge chance by posting this right now.... you can see more details of the problem at

The above writeup is on a few other sites aswell. This had happened some time in Jan this year. I'll try and post a few more videos using 12 Volts 1 amp 1.5 amp.... at the earliest and post the links. Try and save the vids incase theyre removed.

- Mon Aug 13, 2007 6:36 am ; Generation of H2 + O2 was 7CC per sec ; the H2 generation was 4.66 CC/sec and this works out to 16.776 lits of H2/hr

- Mon Aug 13, 2007 9:20 am Post subject: Hi again, Posted new video a while ago. Its almost 1 amp and look at the way the leads to the WFC get heated up and burn the protective tubing. The tubing is in place so that the leads dont get shorted out. I have individual leads coming out of the WFC for each of the pipes.
http://www.youtube.com/watch?v=fiyfwWuA9gA

A closeup video of the burnt out leads.

http://www.youtube.com/watch?v=nto66FTfdTg I have no clue as yet why this is happening. The setup probably needs more pipes I guess. I'll post info if I figure out something.

- Big-bubbles: The conditioning would take time...just keep lugging and you would end up with bubbles like the ones I get. The lights are pulse timing circuit visual indicators.

- Mon Aug 13, 2007 11:09 am : For Markin: I think the suface area for higher amps needs to be increased to get similar outputs as that of 0.5 Amps......so more number of pipe sets should inrease the efficiency at higher ameparages. Its a presumption but could be given a try in the future....any more ideas on increasing eff. at higher amps??

- Tue Aug 14, 2007 1:35 am : I would firstly advice you to go through all of stan's patents to have better understanding of the process.

There is a lot of important stuff in the US and International patents wherein in one of the patents he mentions higher efficiency of a tube setup compared to a plate setup for his proces (so I just didnt want to experiment with the plate setup on his process but I guess it works better with Bob's process). This answers your question Simon.

I could just give you everything but it could work for some and not work for some as the voltages and frequencies vary as per the WFC build and the impurities in tap water. I'm saying this coz till I made the changes when the components blew up on Dave's circuit i didnot get the right combo. The exposed surface area of my setup is much larger as compared to Dave's. He has 6 tubes of 5" lengths and mine is 9 tubes of 9" length so there had to be variations and the thickness of his pipes is different from mine...I have a gap of 1 mm between the pipes the outer tube thickness varies this gap. The gap used by stan meyer was 1.587mm (1/16").. As per stan the lesser the gap higher the efficiency.

Incase you are thinking of this gap youll have to use use three spacers of flexible foam on either end at 120 degree angles in the gap.I say fexible because you would not want any vibrations induced to be restricted as these vibrations help dissipate the bubbles from the surface. If you are not that well versed with mechanical skills, I would advice you to go for a higher gap as the space is very restricted and you might end up shorting the pipes. In longer lengths you should look for slight bends in the pipes as the pipes may get shorted. 1.5mm or 2mm gaps are also OK.

- Points to note: Check the new update of D14.pdf...theres an inductor added inbetween...its a must.

Patents show a variable resistor on the -ve side in between the WFC and the freq generator which everyone seems to have missed out (incl dave) in the '996 patent. This I had asked Dave about and he said it restricts the current going to the WFC.

My setup compared to Dave's has individual connections going to each of the 18 pipes.

Conditioning of the tubes takes a long time....SeaMonkey's explanatin stands good. Once you stop forming the brown muck you know you've conditioned the pipes and the gas generation increases at this point.

Kumaran I had subtracted 100% Faraday efficiency from the total and what you get then is the OU %. Your figure is for total efficiency of the WFC.

- Tue Aug 14, 2007 1:39 am ; You could always build Dave's setup without making any changes including the pipe thickness, height and diameters and achieve the same results as Dave did. His circuit should work for his WFC build size. Conditioning is the key to his generation.

- Tue Aug 14, 2007 2:49 am ; DONOT USE 316L AS LEAD WIRE THEY HAVE TOO HIGH A SPECIFIC RESISTANCE TO BE USED AS LEADS ; approxmately 46.8 times that of copper...incase you want to introduce a resistance you could always used a wire wound variable resistance.

This seems to have been the problem of leads heating up. **Specific Resistances**: Copper : 1.63 MICROHM-cm ; 316 : 75 MICROHM-cm

- Tue Aug 14, 2007 7:33 am ; I'm realy sorry about the patent number. its 4,798,661 and the variable resistance I was talking about is in Figure 1 with numbers 60a...to....60n on the inner tube.

I dont use a blocking diode. No there is no dramatic increase when you vary upuntil you condition the tubes. When I initially started off I could hardly see any bubbles emerging. But as the conditioning proceeds over a period of time you see the gas generation gradually increase. At a point where i was generating a lot of small bubbles I thought I reached the peak but I just wanted to see what would happen if I condition a little more and what I ended up with was making these large 10mm sized bubbles. Its not that the small bubbles accumulate to a bigger bubble but the moment the gen is switched on the large bubbles come rushing out, you can see this in the vids. I wonder if I condition some more I might endup with large bubbles only. Lets see how it goes.

The key to the whole process in my point of view is conditioning and this should go on for a while even after you stop making the brown muck and you end up with large bubbles like mine. It will take time but at the end of the day its worth it!

The dramatic gas increase happens in the range of 0.1 to 0.2 Amps in my WFC but above that you just need to keep checking as to where you get the highest efficiency for that particular WFC and it would be less than an Amp in any case. Look at my outputs the efficiency decreases as you increase the ampearage to the freq generator.

- Tue Aug 14, 2007 9:46 am Post subject: CONDITIONING OF TUBES!!!!! Alright guys make a note of this and save it some place

The conditioning process below was given to me by Dave Lawton and its what I followed religiously for months to reach the outputs. Consider this as the holy grail like I did and still do...

1. Donot use any resistance on the negative side when conditioning the pipes.
2. Start at 0.5 Amps on freq gen and switch off after 25 mins for 30 mins
3. Goto 1.0 Amps for 20 min and stop for 30 min
4. Goto 1.5 Amps for 15 min and stop for 20 min
5. Goto 2.0 Amps for 10 min and stop for 20 min
6. Goto 2.5 Amps for 5 min and stop for 15 min
7. Goto 3.0 Amps for 120 to 150 secs. need to check if WFC getting hot...if it does you need to reduce the time.

AFTER THE 7 STEPS ABOVE LET THE WFC STAND FOR ATLEAST AN HOUR BEFORE YOU START ALL OVER AGAIN. I used tap water for conditioning and no vinegar or any additives.... I donot know if adding something might work or not.

You would hardly see any gas generation at the beginning but it makes a lot of brown muck.....change the water after every cycle initially. DONOT touch the tubes with bare hands if the tube ends need to be cleaned of muck use a brush but donot touch!! As per my experience the brown muck if left in water for the next cycle heats up the water and you need to avoid this.

Then you see the reduction in generation of the brown stuff over a period of time and at a point the pipes dont make any brown stuff atall. You would have had very good generation of gas by now. You get a whitish powdery coat on the surfaces. Never touch the pipes with bare hands once this comes on.

DO THE CONDITIONING IN A WELL VENTILATED AREA OR PREFERRABLY CLOSE THE TOP AND VENT THE GAS OUT IN THE OPEN.

AS THE WFC IS LEFT ON FOR QUITE SOMETIME EVEN SMALL AMOUNT OF GENERATION CAN GET ACCUMULATED IN A CONSTRICTED SPACE AND COULD BE A HAZARD.

The above process to be done after annealing the pipes....see to it that no oxide formation is left on the pipes...use a detergent to wash off the pipes and rinse them thoroughly with fresh water.....assemble the setup including the leads and base.....finally flush the pipes with lots of fresh water......donot touch the pipes with bare hands after this.......
Good Luck and happy conditioning......RAVI

- Ravzz, Posted: Wed Aug 15, 2007 8:18 am:
I know about the **passivation of stainless steels**. Like I said before I dont know if it would work for this process.......even if it does I dont know if you could get the same efficiencies.

Its a short time process so you need to passivate the pipes once they are assembled so that you **dont disturb the layer formed which is usually less than a micron thick**. If this doesnt work you could always revert back to the regular conditioning process but you will have to disassemble the whole setup and sand paper the outside of the inner tube and the inside of the outer tube to get rid of the passivated surface and expose a fresh surface then reassemble and start.

Let me know if this works. **PLEASE NOTE THAT POLISHED TUBES ARE NOT TO BE USED IN MAKING THE WFC**

If they are the only ones you can find make sure they are not Nickel plated or Hard Chrome plated pipes and if they are **Plain SS 304L or 316L but polished you could always use a sand paper.**

You can use most of the 300 series Nickel-Chromium Steels but 316L would be the most preferrable and next would be 304L.......never go for 310 as this has the highest resistivity among the 300 series. Avoid Inconel grade pipes aswell.

Use ONLY SEAMLESS PIPES and not seam welded.

- Ravzz, Posted: Thu Aug 16, 2007 2:02 am :
I remember watching on one of Stan Meyer Videos where they mention the Output to be over 1700% faradays....I guess there's more work needed to be done in this direction.

Dave's unit was 250% OU mine looks a little higher....one of the reasons I think is because my unit is comparitively bigger 9" length 9 tubes compared to Dave's 5" length 6 tubes. Stans was 18"length 9 tubes...double the size of my WFC.

Is there a possibility that some thing like the <u>Joe's Cell aether stuff is happening here</u>?? Even Joe's cell takes a long time to condition and even that produces brown muck and doesnt do so after a while.....both have concentric tubes.. Needs very low amps...there are similarities....

Is there a possibility that the extra work is being done by Aether? **Is joe's cell conditioning similar to the one mentioned above??**

- Ravzz, Posted: Thu Aug 16, 2007 3:53 am:
There is another difference that needs to be noted compared to Dave's Replication. I didnt remember the exact gap between the pipes till patrick just asked me what were the differences between my setup....sat down and calculated....

The gap in between the pipes was: Outer Pipe OD : 25.317 mm ; Thickness : 14 SWG or 2.032 mm ; Outer Pipe ID : 25.317 - (2.032 x2) = 21.253mm
Inner Pipe OD : 19.930 mm ; Thickness : 14 SWG or 2.032 mm ; Gap is 1.323mm (21.253 - 19.930)

and this adjusted to both the sides as the inside pipe is centered is 1.323/2 = 0.6615 mm on either sides of the inner tube.

So effectively **<u>the gap between the pipes is less than 0.670 mm</u>**. I went for a lesser gap by increasing the thickness of the outer tube.

If you go through Stans Canadian Patent **he mentions that the lesser the gap between the pipes more the efficiency**

I had a lot of difficulty in the alignment of pipe as they were shorting. **Had to get**

them straightened on pipe alignment machine. Wouldnt advice people without engineering skills to go for this small a gap.

The higher output of my setup could be due to the smaller gap aswell.

- Ravzz, Posted: Fri Aug 17, 2007 2:44 am:
I,ve posted the video of the changes of the leads im doing right now.
http://www.youtube.com/watch?v=BqSyTiPu8VI

- Ravzz, Posted: Fri Aug 17, 2007 7:04 am:
I havent spoken to Dave about the variations concerning the inductors....as for me **I've made it on a** <u>**Ferrite rod of 25 mm length 100 turns**</u> **of Double Enamelled Electrolytic Copper (99.99%) of 22 SWG (0.711mm dia)** which was what Dave suggested.

You could try the above till you are successful to an extent and then start experimenting with the variations and let everyone know if youre getting better outputs.

- Ravzz, Posted: Sat Aug 18, 2007 9:06 am:
Which tubes have you ordered? **316 or 316L.....the L stands for low carbon ... which supposedly works better** ..... this is the surgical grade SS they use for implants.

O rings are a definite no no!! you will end up trapping some of the gas within the tubes if you restrict the outflow....effectively this would end up reducing the exposed tube surfaces to water in between the pipes and when you cut slots youre again reducing the surface area !! small flexible foam cut to a length of 5 to 6 mm and a width of 3mm.....insert the length inside the tube so the 3mm width is what you see from the top...this way you can increase the gap for the gases to leave the pipe end. Insert three foam pieces at 120 degree angles on both ends.

- Ravzz, Posted: Mon Aug 20, 2007 1:19 am:
... I had my tubes annealed to get rid the crystal lattice imperfections due to cold work.....and any traces of magnetism. They have to be in bright finish only you dont want oxidesof nickel / chromium or iron on the surface.

... **You need to get the tubes annealed once they are cut and finished to lengths before being assembled. Its done in a separate inert atmosphere furnace of N2 or Argon. You have people who do heat treatment for metals** .... they'll give you the procedure if you tell them the grade you're using.

- Ravzz, Posted: Wed Aug 22, 2007 3:12 am:
There seems to be someone else who's replicated Dave's setup.... I saved the video from youtube or google recently......I dont remember who this was or where I found the video but **he seems to be tuning the Freq Gen with an AM radio sound**. Please do let me know if you find the original poster of this video....converted and saved the video and finally got time to watch it last night.

His method seems to work!! and he's connected it to his car aswell.....he claims to

have gotten an increase from 28 miles/gal to 45 miles/gal!! Thats an increase of 17 miles to a gallon!!

Check the video on how he tunes his WFC and his claims.
http://www.youtube.com/watch?v=9fFp3CJZMTw

... You were asking me about the resistance on the inside tube sometime ago......as per stans Patent each inside tube is connected to an individual variable resistance.....you cant make those connections with two leads coming out of the WFC. I have 18 leads (9 +ve and 9 -ve) coming out of the WFC. This way you can do all sorts of variations you need without opening the WFC.

The transformer thing you're talking about are diode heat sinks of previous WFC trials and experiments....but the diode setup is defunct ....im using the connectors at the bottom of that setup which connects to the WFC there.....most of them are all old wirings from previous trials....I was trying a lot of combinations and almost all of them failed except the one recently posted....its all a mess up there.....Dont look too much into it hydro....its as simple as it was in the updated D14.....conditioning is what helped me get higher efficiencies and now check the link on top as to how this guy tunes it and he talks about the white powdery coat he has!!.....this comes only after conditioning!!

- Ravzz, Posted: Wed Aug 22, 2007 6:39 am:
I should thank Aaron for posting the video on conditioning of tubes....
http://www.youtube.com/watch?v=qXRMVZWrgSk

I had followed his postings and videos for a long time now....actually he's been one of the inspiring factors for me to build my system....thanks again Aaron.

He goes by the names **Aaron Murakami / a1c3m / Qiman13** on the net. He has his forum postings on the WFC: http://www.energeticforum.com/renewable-energy

If youre looking for the exact technical language and the process...he's the man!!

- Ravzz, Posted: Wed Aug 22, 2007 8:46 am ; Post subject: Important conditioning info :
Another thing I remembered after watching **Aaron's conditioning video was, when the power is switched on you see bubble formation on the external surfaces of the outer tubes just like in the video** ..... this happens all along during the conditioning process.

I remember **Dave saying that you know <u>the tubes are conditioned when these bubbles stop forming on the external tube surfaces and you see a white powdery coat on the tubes</u>**.

I went on conditioning even after that and ended up with larger bubbles.

- Ravzz, Reply #112 on: August 30, 2007, 12:48:11 PM :
You could use the inner tube as a neutral electrode...by not connecting it with anything at all and connect the inner rod to the negative and the outer most pipe to the

positive. From what i've read and seen neutral electrodes work...Joe's cell is a prime example of this.

Has anyone seen someone using neutral electrodes with voltage potential? well I havent.... looks like you have a new idea Kevin.... Definitely worth a try.

... Well youre almost spot on! The resistance wire restricts the current draw into the WFC. Try it before the inductor and after the inductor...see which gives the highest output. You **dont need the resistance wire during the conditioning of the tubes its only for reducing the current draw**.

Even I didnt know what this was for.....Dave told me that it would reduce the current draw when used.

Tell them that **you need a bright anneal in nitrogen or argon atmosphere**. Annealing is done after every cold work operation and at the finishing stage **to reset the lattice structure**. As we are cutting the pipes and slightly finishing the surfaces with sand paper to remove any imbedded impurities during tube drawing.... its all cold working .... so you need to relieve these induces stresses in the lattice through annealing. **I'm a metallurgist** Hydro so you can stay assured about this. **Its normal manufacturing procedure**.

- Ravzz, Posted: Thu Aug 23, 2007 12:21 am:
Let me mention this again: **The best grade of SS to use is 316L** ; Next preference is 316,304L and 304.

L stands for Low Carbon in the SS alloy.

316L composition: %
- Carbon : 0.03
- Manganese: 2.0
- Phosphorous : <0.45
- Sulphur : 0.03 max
- Silicon : 1.0
- Chromium : 16 to 18
- Nickel : 12 to 14
- Molybdenum : 2.0 to 3.0

316 SS nickel range is 10 to 14% and carbon being 0.08%

304 SS has lesser % of Nickel and Chromium and **doesn't have Molybdenum** at all. so judge for yourself which grade you would want to use.

- Ravzz, Posted: Thu Aug 23, 2007 5:34 am :
If you had told them to anneal in inert / nitrogen / Argon atmosphere it would be a bright finish.

Well if bright finish wasn't a criteria you could just use a gas torch to heat it up till red hot and let it cool off slowly...but you would end up with a blackish bluish discoloration. This is due to the oxide layer formation on the surfaces. I dont know if

oxidised pipes work better but they do have high corrosion resistance. For all we know you might end up getting better outputs than any of us or the other way round but definitely worth a try.

If it doesnt work that well you could disassemble the pipes and use sand paper to remove the oxidised layers. They are usually a few microns thick.

- Ravzz, Posted: Fri Aug 24, 2007 1:07 am :
... Every metal or alloy when cold formed or cold worked has to go through a heat treatment process to relieve the internal stresses. **Its finished and supplied in annealed form. I have my own industry and we work on stainless steels, inconels, cupronickels**, ... and precious metals like gold aswell for the semiconductor industry and we need to anneal not just at the finishing stage but in the intermediate stages as well for further cold work. **Annealing is a compulsory procedure in every metal working process unless you require high temper and uneven stresses within the work piece**.

By the way High Carbon Steels go through another heat treatment process called patenting .... these are high tensile strength steels and widely used in spring making.

Please stay assured that we do anneal Stainless Steels at our plant. If you didnt know even the copper wires you use everywhere are annealed....this is done on the wire drawing machines itself.

- Ravzz, Posted: Fri Aug 24, 2007 3:12 am:
I've switched on and switched off the Freq. Generated twice in the second video. To clear up any doubts some might have that there could be a another source than the freq gen input.

- Ravzz, Posted: Fri Aug 24, 2007 5:45 am:
... The higher output is all to do with the inductors in the D14 circuit and conditioning mainly and slightly through the resistance wire to reduce the current draw. Even without the resistance you can get the same output but another 0.3 to 0.6 amps extra but I feel this could be offset by making a bigger inductor. Just go on conditioning and keep reducing the Amp draw to the WFC gradually and the generation would kind of remain the same even at very low Amps. Once you condition the tubes your generation will dramatically increase and the current required will fall by leaps....this took me almost 3 months approximately to reach these outputs.

- Ravzz, Posted: Sat Aug 25, 2007 7:53 am:
I use the 555....never checked if it was heating up!

- Ravzz, Posted: Sat Aug 25, 2007 5:21 am :
... Hydro, if you are going for a bigger setup than Dave's. Then, change the 100 ohm 0.25 watt resistors to 0.5 / 1.0 watt resistors depending on the increase in exposed surface area. I use 1 watt.

- Ravzz, Reply #115 on: August 30, 2007, 12:59:19 PM :
Alright people there's something really weird happening in the WFC. Dave had mentioned some time ago that there's some glow in the dark.

<u>I just checked it in pitch dark..... theres some kind of orange glow coming from the bottom of the WFC</u> but cant make out exactly from where... tried taking pics but didnt work they got all pixulated. Any idea what this could be??

- Ravzz, Posted: Mon Aug 27, 2007 1:02 am:
I have no idea what it was. **It was an orangish glow and comes intermittently for two or three secs then goes off for a while**, you cant see any glow on top of the tubes but **only at the bottom** .... cant be the leads as theyre enclosed in plastic piping and the point where the wires are spot welded is also covered with silicone sealant....you can see this in the pics I posted. Could be Radiant Ener but thats what was happening....this couldve been happening all along but I never noticed it as I was always concentrating on the generation at the top of the tubes.

... Being a Mechanical Engineer I dont know too much about electronics. i got my circuit made by somebody and when ever there were problems I got them rectified by the same person and kept track of what changes he made and I've told you what the changes were.

- Ravzz, Posted: Mon Aug 27, 2007 1:08 am:
Check this post for the same thread in overunity.com ....this could be of help!! Im pasting it here for reference:

Ravi, Do you know the approximate frequency at which you are applying the square wave pulses to your WFC? The reason why is related to some research I did with a well known 'water as a fuel' research group.....

Here was the crux of my interesting finding: The findings are based on this youtube video from Dave Lawton: http://www.youtube.com/watch?v=miwbvsya3Ek , WATCH IT!

[4/1/2007 3:40:25 PM] Tao says: Just doing a simple calculation a tube in plain fresh water, the equation from http://en.wikipedia.org/wiki/Acoustic_resonance shows $f=(n*v)/(2*L)$ where n corresponds to the harmonic, v is the speed of sound in the water, and L is the length of the tube....

So, lets simplify this equation, n can be always 1, v is 1435 m/s in fresh water according to Wikipedia.

So, $f = (1*1435)/(2*L) = 717.5 / L = f$, Just for fun, lets take the frequency Dave was producing Hydroxy at in his latest video on Youtube: 3425.781Hz

So, $3425.781 = 717.5 / L$, $L = 717.5 / 3425.781 = 0.21$ meters , So that would be 8.27 inches long.... So, how long in inches are Dave's tubes? Just curious........

[4/2/2007 11:26:20 PM] Tao says: So, I asked how long Dave's tubes were, well, I looked up how long they were from an old post Dave did on the original forum back in 2004...

[4/2/2007 11:26:44 PM] Tao says: Dave said that his tubes were about 12.5-13cm

(which is about 5 inches long)

[4/2/2007 11:27:39 PM] Tao says: so, calculating that into the equation: 717.5 / L = f ,
we have 717.5 / 0.1275 = f , so f = about 5650Hz

[4/2/2007 11:28:21 PM] Tao says: So, based on what it says at the END of that video
on youtube, it says that the hydroxy was being produced at 3425.78Hz

[4/2/2007 11:29:00 PM] Tao says: BUT, they acoustic frequency came out to be
5650Hz, so I said, 'oh, too bad' seems there isn't much of a connection, I guess I need
to do more research'

[4/2/2007 11:29:10 PM] Tao says: UNTIL, I just watched that video again..........

[4/2/2007 11:29:50 PM] Tao says: Look at what Dave was pulsing his DC at in the
video: 5714Hz!!!! At 1:11 in the video you can see what he was pulsing at.......

[4/2/2007 11:30:58 PM] Tao says: Based on the equation for acoustic resonance, Dave
was pulsing his tubes at the EXACT frequency at which those tubes will resonate
ACOUSTICALLY in FRESH WATER...

So, my finding was basically this: **Dave found the BEST gas production at the
VERY SAME frequency that just so happens to be where his tubes resonate
ACOUSTICALLY IN WATER** ... HMMM...

Maybe it is nothing at all but a coincidence, but maybe there is just something to
it........................

- Gheller, Reply #116 on: August 30, 2007, 01:33:54 PM :
... I edited the HTML and combined all Ravi's OUpower posts into one html file.
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12353
ravi-oupower-posts.zip , 94.95 KB

- Reply #117 on: August 30, 2007, 01:56:24 PM :
Thanks for your efforts in compiling the information Gheller, I took the liberty of
copying it all to my website http://hh0.no-ip.info/ , it can be found just below the
videos, I figured if it's on a webpage of it's own then it will not get pushed by other
postings.

- Reply #121 on: August 30, 2007, 03:10:45 PM :
I ripped all the posts from the old icubenetwork because I was there when Dave made
his WFC, and there when qiman13 and I started the offshoot 'radianth2o' yahoo
group... I will post those icubenetwork files soon enough...

For now, here is the entire overunity.com Ravi thread in a zip file, all manually edited
html files, enjoy. 'ravi-overunity-posts.zip' , 2074.78 KB
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12354

- Reply #124 on: August 30, 2007, 03:24:22 PM:
Below are all the PDFs I hand-made in 2005. Each PDF is a complete recreation of a

different thread that was at ICUBENETWORK when it was active. The PDF's titles are the same as the titles that each of their respective threads had at icubenetwork.

It was the origin of Dave Lawton's release of his replication of Meyer's system. It was also the origin for the radianth2o yahoo group and qiman13
(http://youtube.com/qiman13) who has also been releasing videos just recently along with Ravi's.............. Have a good read guys, this is the GENESIS material to all these Meyer replications!

- Daves_Cell.pdf, 399.83 KB ;
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12355
- Daves_WFC_Setup.pdf, 83.19 KB
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12356
- Stanley_Meyer_Theories_and_Circuits.pdf, 496.09 KB,
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12357
- Secrets_of_the_Water_Cell_Explained.pdf, 508.58 KB,
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12358
- Bedini_SG_-_THE_Key_to_Meyers_circuit.pdf, 517.95 KB,
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12359

- **Reply #178 on: September 04, 2007, 10:40:35 PM** :
Here is the high res picture of Dave's actual setup with his light bulb being powered by the Electron Extraction Circuit... The EEC works folks, believe that... One more vindicating action that supports Meyer...........
See picture 'radiant2.JPG', 313.73 KB, 1663x1210
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12464

PS - I was just looking up similar 83,000uF 50V caps to see what they could look like, and they look very similar to the one in Dave's pic there...

- **Reply #183 on: September 05, 2007, 03:14:48 AM** :
Guys another [lawton-Ravi] replication was sent to me. Plus a guy on Hydroxy just posted he has one too.

Quote on the attached: "Paul estimates that he is getting the same output as Dave. He intends to improve substantially on that, but he has to fix a leak in the base of the cell before he continues development. His web site is "

Hydroxy post: "I am using a meyer cell with a Dave Lawton circuit. I increased my gas milage in my ford escort to 45 MPG from 28 MPG. The Lawton circuit fryed my alternator. My solution was a $20 dollar boat battery charger that plugs into a car cigarette lighter. I use that to power my Lawton circuit now.

Yahoo! Groups Links: To visit your group on the web, go to:
http://groups.yahoo.com/group/Hydroxy/ "

- PGreen2.JPG (1460.26 KB, 3008x2000 - viewed 408 times.)
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12469
- PGreen1.JPG (1887.95 KB, 2000x3008 - viewed 28 times.)
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12470

Guys, as you may know Dave has reported Cold current electricity from the cell, Patrick just sent me this, im not sure if he has uploaded the new 'cold current' circuit to the cell, but rest assured the plans wil be in there

"I'm afraid that papers of that nature just leave me cold (no pun intended) as I gain nothing from them. I don't think in mathematical structures.

The subject of radiant, or "cold" energy is not well defined at this time. Our familiar conventional electricity appears to be a transverse oscillation while the "cold" component appears to be a longitudinal oscillation. Consequently, none of our instruments react to cold electricity and while it can power lights, motors, heaters, etc., the only way to actually measure it appears to be to charge a lead-acid battery using it and then measure the power stored in the battery by discharging it. John Bedini remarks that after forty years of searching, that is the only mechanism which he has found.

Electromagnetic pulsing appears to be the main way of accessing this energy. Bob Boyce's electrolyzer gets 10 x Faraday's supposed maximum, through magnetic pulsing of a hundred stainless steel plates in a row. This is effectively pulsing a hundred capacitors in series as the electrolyte is essentially a dielectric. Bob gets a major power gain by pulsing windings on a toroid, which is definitely a significant shape for cold electricity. The power gain can be 10,000 amps of hot electricity, and as that is effectively the "losses" where cold electricity is concerned, the real "cold" power is so much greater that it can trigger a ground feeder leading to a lightning strike. Bob found that out the hard way and was very lucky to survive being hit by that lightning strike.

The toroid is at the heart of many different COP>1 devices and its effect can be

simulated by generating a rotating magnetic field without a toroid (devices like the Adams Motor for example). That of course, is not the whole picture, as Thomas Henry Moray achieved massive power input without anything like that, so how do you explain input from an aerial as that appears fairly passive?

So, the bottom line is, that while I know that cold electricity can be tapped with rotating magnetic fields, strong dipoles (including sharp DC pulses and permanent magnets) and passive devices like aerials, Coler devices and the Joe Cell, it is clear that I really don't understand anything significant about it.

- Reply #187 on: September 05, 2007, 06:11:47 AM :
'bigfatpothead' on youtube running his car on Dave's setup and his mileage gain was around 17 miles/gallon which works out to 62% increase in mileage!! (by far better than any available off the shelf).....the video is (http://www.youtube.com/watch?v=9fFp3CJZMTw).....this system was the same size as Dave's , wouldn't be surprised if the mileage gain is over 120% as my unit is much bigger
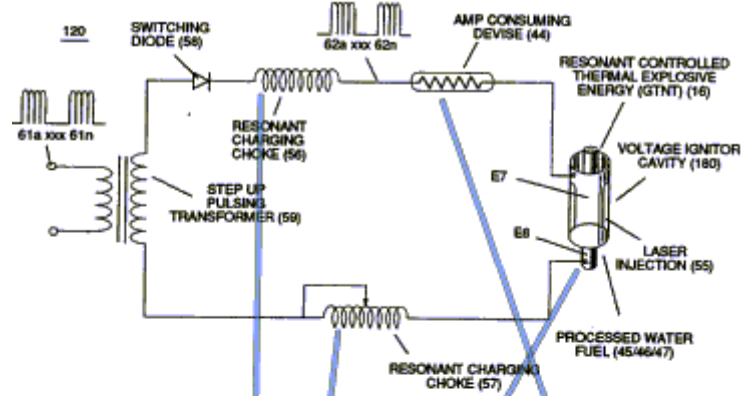
- Tao, Reply #194 on: September 05, 2007, 02:20:49 PM:
Meyer's EEC circuit layouts compared to Lawton's recently posted EEC circuit that he is using to power that light bulb, among other loads...
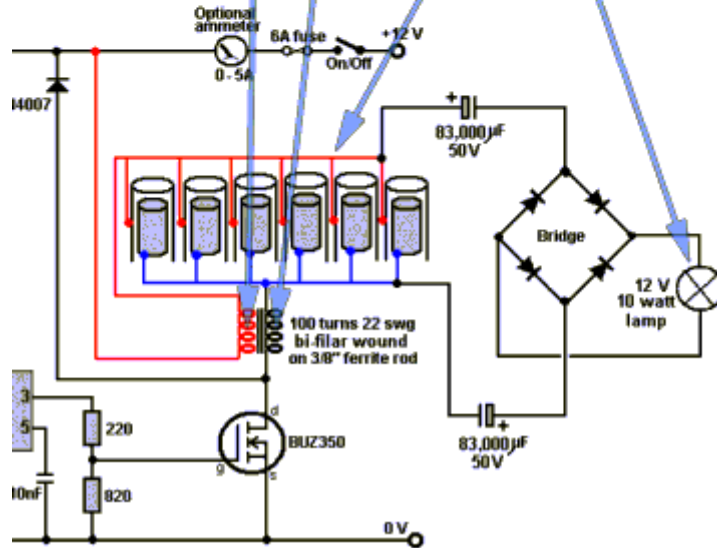
In the first image, Meyer's simple EEC is shown. In this setup, the 'amp consuming device' is analogous to Lawton's light bulb. When the water in the WFC is being split, electrons are dislodged from the water and as successive positive pulses happen the electrons are effectively 'sucked up' by the amp consuming device. So, there are electrons in the water free, and when a positive pulse comes, the electrons move to the right electrode and move through the 'amp consuming device'.

In the second image, Meyer upgraded his setup and included a triggering mechanism whereby he can choose when he applies the positive pulses to the 'amp consuming device'. So Meyer could send some pulses to the WFC plates and split up the water, then he could trigger the switch and send pulses to the 'amp consuming device' whereby the electrons from the water would flow through it.

Stan Meyer's Electron Extraction Circuit Setup

120

SWITCHING DIODE (58)

62a xxx 62n

AMP CONSUMING DEVISE (44)

RESONANT CONTROLLED THERMAL EXPLOSIVE ENERGY (GTNT) (16)

61a xxx 61n

RESONANT CHARGING CHOKE (56)

STEP UP PULSING TRANSFORMER (59)

VOLTAGE IGNITOR CAVITY (180)

E7

E8

LASER INJECTION (55)

RESONANT CHARGING CHOKE (57)

PROCESSED WATER FUEL (45/46/47)

Dave Lawton's Electron Extraction Circuit Setup

Optional ammeter
0 - 5A

6A fuse

On/Off

+12 V

4007

83,000µF 50V

Bridge

12 V 10 watt lamp

100 turns 22 swg bi-filar wound on 3/8" ferrite rod

3
5

220

10nF

820

BUZ350

83,000µF 50V

0 V

Lawton on the other hand, has modified Meyer's EEC a bit with the addition of those extra high capacity caps. These caps would, by thinking about it, charge up via the continued HV pulses that are being applied to the WFC, analogous to a Bedini type setup. The electrons would then move to and from the caps and cause fluctuating current to hit the bridge rectifier and power his load.

- Robert, Reply #195 on: September 05, 2007, 02:36:13 PM :
I think the second EEC must work a lot better than the first. IN the first picture you can see the electron extraction is probably also limited by the chokes. In the second one the amp consuming device (bulb) bypasses the chokes to extract more electron from the circuit. (and therefore stopping Hydrogen and oxygen atoms from recombining)

- Reply #219 on: September 06, 2007, 02:06:21 AM :
Quote from: saintpoida on September 05, 2007, 11:03:49 PM : Also with tuning the pipes, wouldnt making the inner tube longer push it closer to the freq of the outer tube? If so you would just need to calculate by how much longer it would need to be?

I have done just that on my pipes... the extra lenght sits at the bottom and flush at the top. I calculated the surface area of the inside of the the outer pipe and adjusted the lenght of the inside pipe to have the same surface area. They sound identical when struck like a tuning fork..

- Reply #219 on: September 06, 2007, 02:06:21 AM :
Guys some one was talking about Bi-filar coils before a friend sent me this: Check what Tesla says below keeping the WFC and a bi-filar inductor in context:

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.. **After an initial input of energy from an outside Very low energy expenditure allows power delivery to an electrical load over an extended time period without an external fuel supply source, the radiant energy electrical generator will operate as a very efficient device.**

The parts highlighted in red seem very very relevant in WFC context. So bifilar inductors are worth a try.What do you think?? any ideas on how we should try it??

Also Could you check up on the following link and see if it actually works for a WFC? http://jnaudin.free.fr/html/parabifc.htm

- **Reply #222 on: September 06, 2007, 03:17:48 AM** :
Much of this relates DIRECTLY to my thread I posted soon before RAVI's 'coming out'. It deals with all this directly. "Stanley Meyer, please meet Stanislav Avramenko: Water as a fuel..." http://www.overunity.com/index.php/topic,2967.0.html

In regard directly to the Tesla bifilar patent and setup itself, I mention in the above thread a Mr. Milan Manchich. He used a flat Tesla pancake coil, and applied a HF voltage to the inner or outer wire of the pancake coil, and on the opposite wire of the pancake coil, he placed an 'Avramenko's Plug'.
http://www.keelynet.com/energy/milan.htm Please see the thread directly for the links to Avramenko and the like.

Tesla was the KING of voltage POTENTIAL, so I think these paths of research are good to follow to potentially lead us to the best WFC control circuitry.

- **Reply #228 on: September 06, 2007, 06:28:13 AM** :
Maybe something interesting. This guy is using radiant energy to get the osscilation done.. en gets lots of radiant power. Works quite strange, but maybe he is on to something.
- http://www.youtube.com/watch?v=IFHejjzQJek
- http://www.youtube.com/watch?v=9Ps4omGNU54
- http://www.youtube.com/user/Jdub6d9

- **Reply #230 on: September 06, 2007, 12:15:25 PM** :
At only 22, cracked easy capture of cold electricity, no meter, no scope, no soldering iron, no nothing not even a theory. This boy will go far. I feel I have wasted my life. AM

- **Gh. J., Reply #243 on: September 07, 2007, 08:54:36 AM** :
WFC WHITE POWDERY COAT FROM CONDITIONING :
http://www.youtube.com/watch?v=Rx2uEsbTt8Y

Aaron says its Calcium Oxide ; **some ppl are trying to use Reverse Osmosis and distilled water for conditioning, but you don't have calcium mineral in them, so just use TAP water ONLY or collect water from free flowing streams could work better than tap water!!!**

Seems logical to add EXTRA calcium to the water to speed up the layer forming. You can just buy it at the the pet shop. Used to add to RO water for fishtanks... Robert

- Gh. J., Reply #245 on: September 07, 2007, 11:26:48 AM:
Calcium Oxide coat is Aaron's presumption/deduction and he says it could be anything ! It hasn't been analysed ! There are a lot of mineral salts present in natural water.

It could be any oxide or hydride or an exotic combination composition ! Also to note that Aaron has conditioned at 10V 2 Amps for 2 hours straight non stop for an hour and not like the conditioning process which Ravi mentioned!

There is a possibility that with the increase in Amp process mentioned by Ravi, there are different kind of mineral / deposits layers formed on the inner tube surface! Don't know if Aaron used pulsed 10V 2Amp DC or straight. Ravi's was pulsed! So just be careful which process you follow! It's not just a layer that you need to create but the RIGHT kinda layer!

This could be proven if it works or not by Aaron himself if he checks for the difference in gas output, before and after the conditioning ! Gh. J

- Aaron, Reply #246 on: September 08, 2007, 05:50:16 AM :
SUCCESSFUL CONDITIONING NEWS!!!!!! WFC Conditioning does reduce Amp draw with the same gas generation!!

So guys just build dis n you'll know it works!! U have a replicated proof now!

Message: There is increase in production for same input. Actually, I will post msg about it. The amps reduce over couple hours by couple hundred ma's meaning that there is more restriction and gas "appears" to be identical. Didn't measure gas but with amps reducing with dial on variac same...same production for less.

- Reply #258 on: September 09, 2007, 08:17:56 PM :
Ok guys I have confirmed through my experiments that you need to take the tubes out of the water to speed up the oxide layer to form. My tubes are completely covered with a thin layer already with 2 water changes and 12v@ 1A pulsed. I put my tubes in front of a fan in between water changes. I change it approximately every 20 mins. I'll post some pics later once i have it thick enough. I am having problems with the positive tube rusting though. It gets a gold color that appears to be rust.

- Ravzz, Reply #261 on: September 10, 2007, 04:15:14 AM :
PostPosted: Sat Sep 08, 2007 1:04 am : I'm sorry about not being able to post out here!! You guys are doing good!

Please follow the overunity forum aswell........ **there seems to have been a success**

with the conditioning reducing the Amp draw with the same gas production!!!
http://www.overunity.com/index.php/topic,3079.0.html

The same questions are still being answered as to why this can happen!! Just build it follow the conditioning procedure and youre on!!........it works people....dont think too much about how or why it works.........IT JUST WORKS!!

we can ascertain whys or hows after you have a working prototype....the science can follow later. Please check the new updated Sept 4th D14 for the conditioning process I posted on this forum.

I've taken enough risk again posting on this forum.....dont let this technology die again! RAVI RAJU

- Gh. J., Reply #261 on: September 10, 2007, 04:15:14 AM :
I'm posting the pdf of BIFILAR chokes info on Aarons ideas of how it could be working on the WFC!! This is being posted with permission from Aaron

link to the forum: http://www.energeticforum.com/energy/972-stan-meyer-bifilar-chokes.html

Pl. register there to find more info on dis topic: Stan_Meyer_Bifilar_Chokes-Energiticforum_thread.pdf, 1193.96 KB,
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12657

- Reply #271 on: September 12, 2007, 03:32:57 PM :

the image was donated to Panacea-BOCAF.

- Reply #283 on: September 14, 2007, 09:37:47 AM :
I think it is not Calcium Oxide in my case as I also have tried conditioning with distilled water and seeing the oxide layer forming within an hour. As most sources say, it is Magnesium oxide that forms as a protective layer on stainless steel. Then again I am not sure. might be different coating using different procedures. When i used higher amps and tap water and water got hot, then the white calc formed was pretty nasty. It formed unevenly and at certain places even filled the whole gap between tubes. So i think it is Calcium from tap water when you overheat your tubes and effect is similar to the effect of usual water heater.

Anyways, had also a maybe silly thought of just making some test tubes and try to coat with different materials and see if the effect might be similar to conditioning....

havent put it into practice yet.

- Reply #285 on: September 14, 2007, 05:34:12 PM:
For the last couple of days I've been monitoring and adjusting the voltage and current while conditioning the tubes, always maintaining around 12.5 volts at 300ma, removing the tubes around every thirty minutes to dry them gently over a stove.

The oxide layer is now quite thick on the inner tubes and a greyish white, but whats interesting is that the more I condition the tubes the more frequent the larger hydrogen bubbles are becoming.

- Reply #291 on: September 14, 2007, 09:21:03 PM :
Well said RunningBare, I think **a lot of people over stress on the need for the BUZ350**, Probably because the name sticks in your head and is easy to remember, There is nothing special about it compared to any other 200v N channel mosfet.

- Reply #295 on: September 14, 2007, 11:03:24 PM :
I think the problem is with some folk seeing the mosfet as being part of the magic, when in fact the only true critical components are the coils and tubes, the rest is generic electronics, mosfets have extremely low gate current, but it would be possible to use a Darlington bipolar transistor in it's place so long as it has a fast switching time, as for the 555 timer circuitry, thats just convenience, you can provide a square wave at particular frequencies from a number of different sources.

- Reply #296 on: September 15, 2007, 12:30:33 AM :
I do think the mosfet might matter....At least as far as the drain source diode goes. I think your diode in the d-14 circuit needs to be faster than the mosfet blocking diode so the back emf pulse will stay in the loop and not go to ground.

The buz-350 has a reverse recovery time of 180 ns and the 32n20c has a reverse recovery time of 265 ns witch is slower. This should work fine in this circuit. Also, the 32n20 has half of the internal resistance .06 ohm so it should run even cooler than the buz-350..Looks like a good choice and it is cheap. Most ultra high speed diodes have a 50ns on time or less witch should work well in the d-14 circuit. The diode could somewhat effect the tuning of this circuit.

- Reply #297 on: September 15, 2007, 01:11:02 AM :
The back EMF from a coil of 100 turns on a ferrite core would be in microseconds to milliseconds, a delay of 180 ns would be insignificant.

- Reply #299 on: September 15, 2007, 03:15:57 AM :
message from ravi raju (via panacea-bocaf - which is one direction to send info to, anonymously or with your name):

Ask people on the forum to **follow the Conditioning procedure that I gave** as you get very uneven coat formation on the surface if you use High Amps for long periods....and when you go above 3 Amps theres a possibility of the coating flaking off...the bonding between layers would not be that strong....these layers form one over the other after every cycle of conditioning.......the small time high Amp conditioning gives you an uneven coat and the long time low Amp conditioning evens out

this....more or less. The longer you use Low Amp conditioning the better the end outputs!

DONOT CONDITION ON A SINGLE HIGH AMP VALUE FOR LONG TIME.

You could end up blocking the space in between the tubes and you'll have to dismantle the pipes and start all over again. We dont yet know exactly as to what the coating comprises of! As there are some High Voltage discharges (Probably....reason...glow in the dark) they could be some very exotic alloy compositions formed....as the temperatures for a fraction of a second at the point of discharge go into thousands of degrees C.

- Reply #307 on: September 15, 2007, 04:26:55 PM:
since the whole thing is a resonance system in operation, it is ulikely that any specific configuration numbers, like power, frequency, pulse shape, plate thickness, plate size, tube size, and or plate/tube separation distance.....it is unlikely that these are immediately translatable to another device. Even one that appears to be identical.

Tuning is likely to remain an individual task, in terms of getting the given unit to operate. This is likely to be true, until the exact operational parameters are well understood. At that point..it is likely that broad levels of 'repeatability' can be achieved.

- Reply #326 on: September 17, 2007, 06:18:30 AM :
Guys, here comes a step by step for beginners of daves and Ravi's. More tests/snaps /videos coming, almost finished construction.
fwdwaterfuelcellsnaps.zip, 1238.4 KB
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12843

- Reply #333 on: September 17, 2007, 11:33:51 AM:
If you look in stan meyer tech brief document you'll he used two differnt mathods of electron extraction. The one you showed (in series with the cell) is the old method. It all boils down to extracting the electron from the water during the pulse off time.... it doesn't really matter how you do it. It stops the hydrogen and oxygen atoms from recombining before they leave the water bath.

- Reply #338 on: September 17, 2007, 04:07:27 PM:
Stanley reasoned that since his whole method is based on using ONLY VOLTAGE POTENTIAL, it would stand to reason to label one of his elements in his circuit an AMP CONSUMING DEVICE. Since he is seeing amps and voltage are separate things, and they MOST CERTAINLY can be separated, this explains the labeling.

Of course, the AMP CONSUMING DEVICE refers to any loads (preferably resistive loads) which use power in a normal fashion.

- Reply #348 on: September 18, 2007, 04:14:42 AM :
I was just looking at Stan Meyer's explanation of one of his cells on YouTube and it got me to thinking. He was discussing how a laser could be used to keep the oxygen and hydrogen atoms in an excited state so they could not recombine to form water. This, he said, would give off extreme heat/energy. This is what is done to gases to

form plasma. They are subjected to high energy fields, i.e. microwaves, lasers, radio waves so the electrons cannot naturally stay within the atoms. Examples of this are the laser induced plasma channel and microwave plasma experiments on YouTube.

I think another example of what Stan Meyers is talking about is the Kanzius affect. So the radio waves cause the water to split with the salt serving as a catalyst. Once the water is turned into HHO and it is lit, it starts to attempt to combine back into water. This would usually lead to a small explosion and the recreation of water but that does not happen in the Kanzius experiments. Instead as the HHO attempts to form H_2O it is unable to do this because the radio waves are exciting the gas and it is staying in a plasma state giving off 3000 degrees heat as Stan Meyer's said. Is anyone working on a Kanzius recreation?

- Reply #350 on: September 18, 2007, 05:55:36 AM :
Tesla Impulse Technology based patent for creating Ozone by using "pulsed DC"
http://keelynet.com/tesla/00568177.pdf

now we are finally getting to the root of things, impulse tech. gerry vassilatos has written quite a bit about these fast interruptions of DC, pulsing them to a specific frequency, and what Tesla discovered he was able to accomplish.

- Reply #352 on: September 18, 2007, 08:36:14 AM:
Check d followin vid of hydrocars @ 20.9 watts!! >>>> 11V 1.9 Amps >>>>and still reducing!

He seems 2 have done it! http://www.youtube.com/watch?v=GXzTtm-QwtI Way 2 go mate! one winner >>> few more 2 come!

- Reply #371 on: September 19, 2007, 11:15:34 PM :
Gheller J that done for me by Gary and was posted by me on oupower :-) we have built that but had some problems with it so we modified it to this one which is exactly the same as the d14 circuit.
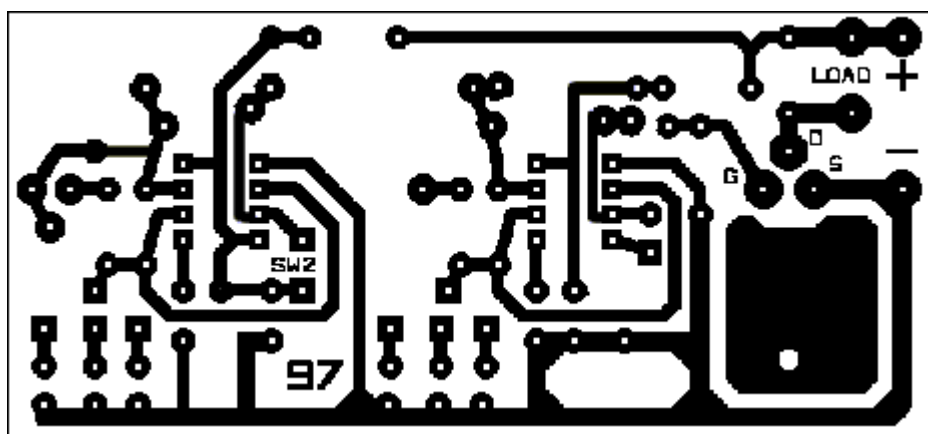
when you print it out you will need to mirror image it ie horizontal flip it
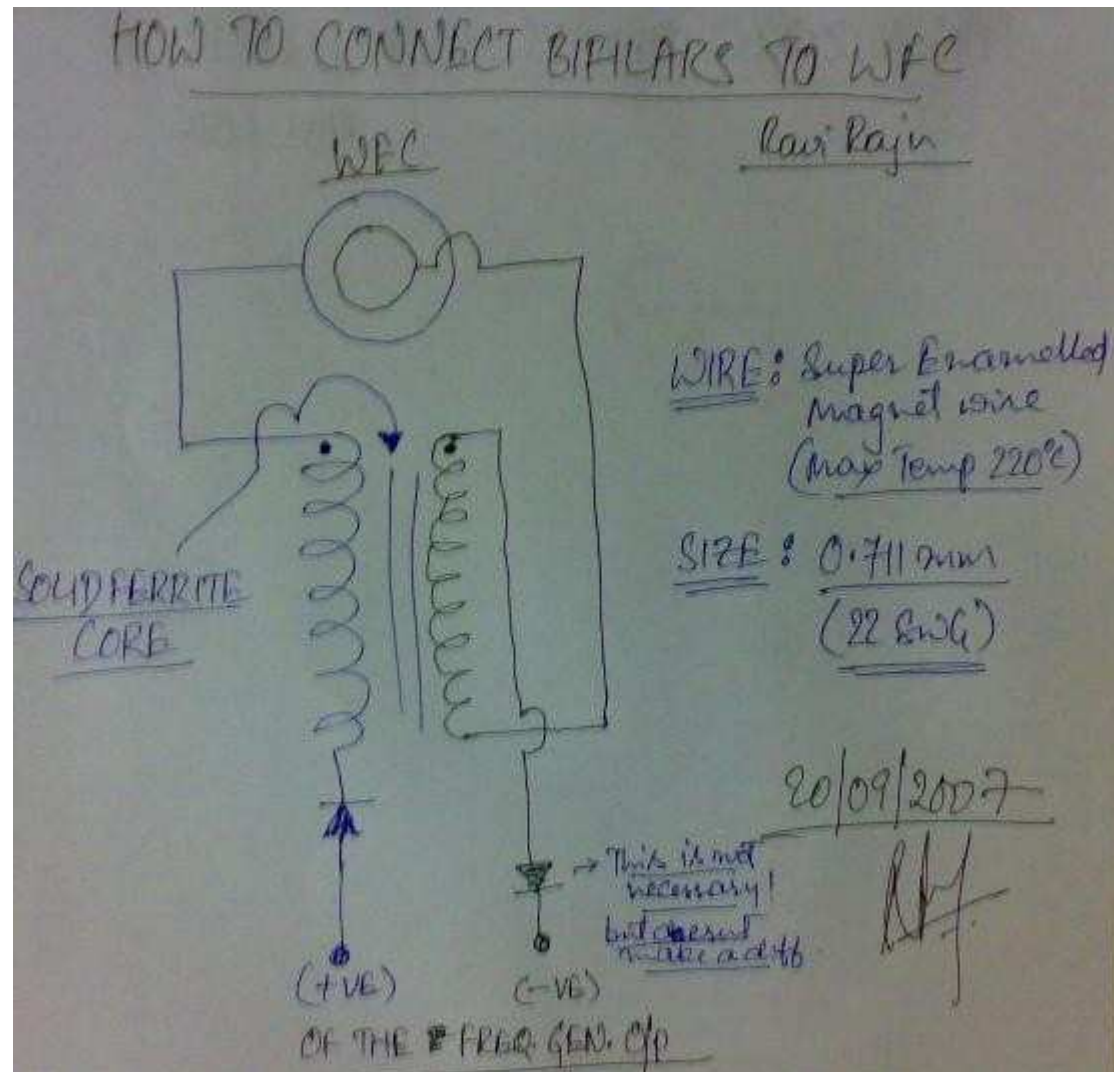
- Runningbare, Reply #378 on: September 20, 2007, 04:33:36 AM :
Very interesting, of course I had not considered the obvious, the tubes are in fact capacitors to the the current flow and since its straight DC or pulsed DC they will charge impeding current flow, so adding more tubes will not substatially increase current flow, only the initial current will be high at turn on until they reach potential.

btw, this can also be found in the "Stan_Meyer_Full_Data.pdf" page 230 paragraph 4.

- Gh. j., Reply #378 on: September 20, 2007, 04:33:36 AM :
JUST RECEIVED THIS FROM A VERY VERY RELIABLE SOURCE !! Gh. j.



RAVI_WFC_Bifilar_02.jpg, 314.98 KB, 1600x1200 ;
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;
attach=12932

- Gh. j., Reply #397 on: September 20, 2007, 06:25:11 PM:
i'm sorry but if you are using the lawton circuit alone this will not do anything but limit current, the back emf is wasted, if you are going to use this whith out a use of a transformer you should use this circuit, therfor it does not wast the back emf as the

first picture, if you was to use the first picture you pasted it would work fine with a transformer, but the second added diode is not doing anything, and the direction of the chokes must be hooked the right way.

using the same core means sharing a magnetic field, if hooked improperly you loose. the core inside the choke takes on a discharge effect, when sharing cores the discharge emf effect falls faster, it is better to use single cores so each chokes can fall at it's on electro magnetic field rate.

it is very important that the 3rd cycle of the transformer hits the chokes at a discharge level, if the transformer hits the chokes on the 3rd cycle and they have already been dishcharged caused by using the same core, then you loose again.
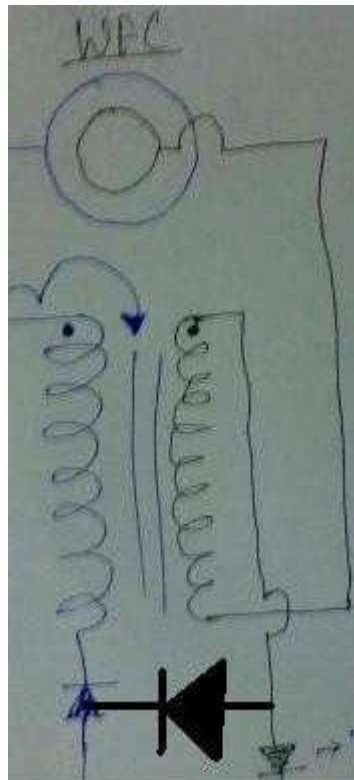
update.jpg, 12.64 KB, 315x391
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12941

- Reply #406 on: September 21, 2007, 02:48:49 AM :
Found this patent that was cited in Meyer patent. Someone in 1974 who produced hydrogen with pulsed power. May be it will help us to improve the pulse system and VIC
3954592_-_stephen_horvath-1974.pdf, 669.3 KB
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12946

- Reply #416 on: September 22, 2007, 02:29:43 AM :
Found this Canadian patent of Stanley Meyer. Date : 1988 Title: ELECTRICAL PARTICLE GENERATOR. We saw a drawing (fig. 3) of a very special choke of "3 parallel non-magnetic tube". There are other kind of choke. I am not a specialist, but I

think you shuold read it.
stanley_meyer_canadian_patent_01213671.pdf, 805.08 KB
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12969

- Ravzz, Reply #421 on: September 22, 2007, 03:21:46 PM :
MULTIPLE BIFILAR SETUP for WFC!!
Im sending a pic of the multiple bifilars I tried on the WFC just a while ago. These were connected to each pipe individually. Diode used 1200 V 40 Amps. Solid core length 8" wound with 0.711 mm conductor end to end.

The generation increased by approximately another 10cc of gas for a 20 second period. This works on efficiency!! Need to try out other combos to see if it can increase some more.

- Reply #431 on: September 23, 2007, 10:25:33 PM :
It never hurts to rember that hydrogen is an alkali metal..and that H20 could sort of be considered to be it's 'oxidized state'

- Ravzz, Reply #441 on: September 25, 2007, 05:27:03 AM:
I think my tubes are still being conditioned as I saw a lot of brown stuff generation when I connected the bifilar inductors. The conditioning I presume happens for every specific voltage.

Try to use a ferrite core torroidal to step up voltage connect to the inductors (individual and regular wound) as mentioned by Spewing on Overunity thread as of now as the bifilars are creating some problems...I blew up both the 1200V 40A diodes....looks like one of the tubes (no.7) has shorted...no gas production. The voltages might have gone very high with the bifilars connected and theres a

possibility that this is creating problems for the smaller gap to short out. Dont use the bifilar inductors till we have a proper understanding of how they can stably work.

- Ravi_Bifilar_Gen_01.jpg, 1108.97 KB, 1021x1600 -
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=13091
- Ravi_Bifilar_Gen_02.jpg, 1069.94 KB, 1329x1200 -
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=13093

- **Reply #489 on: September 28, 2007, 01:22:00 AM** :
the transformer not under any kind of load should put out well over a thousand volts, the coils reduce current on both sides to the cell.. when the transformer starts to pulse the wfc threw the chokes the cell gets energized at that time, the cell is taking on a charge, during the off pulse of the primary side of the transformer the chokes is emitting back emf to the transformer witch is in parallel with both of the chokes "at that given time". by the time the 3rd pulse arrives the chokes work with the transformer in a series fashion, this multiplies the voltage across the cell.

each time the cell is step charged the voltage across the cell increases, each time the cell increases in voltage the output from the transformer to the chokes is increased, and stronger emf is emitted. once the cell reaches its peak the transfromer is now putting out over its maximum thousand volt rating because of the series positioning of the chokes. the second side of the circuit is now resonating, meaning the circuit, not the water fuel cell.

each time the cell takes on a step charge the amount of amps in pulses applied to the primary side of the coil drops, when the cell becomes completely charged hardly any amps is consumed from the primary side of the transformer.

this is not overunity, it is just a resonating "circuit" that works

Dave Lawton REPLICA: (page created at November 2007 Update)

Mars 2004, First Meyer's Public Replica, by Dave Lawton, Extracts from downloadable pdf file:
http://www.overunity.com/index.php?action=dlattach;topic=3079.0;attach=12355

I used 304 ss tubes 13cm length, outer tubes 25mm diameter, 1mm wall, inner tubes 22mm diameter, 1mm gap spaced with plastic tiwraps. They were mounted on a acrylic disc which had holes cut to match so the outer tube was a tight fit also set in epoxy. It was then mounted on spacers and screwed with ss screws to the screw on base. Also wrapped a copper wire coil which is hidden by the lower plastic coupler to sync the protons and see what effect that has, a bit like a proton precession magnetometer.

Welded ss cheese cutter wire to bottom of each tube using a car battery, works well it you are quick ! The case was made up from two 4inch diameter waste pipe couplers with two screw on end cap I bought from a builder merchant for about L7. The clear 12 inch Polycarbonate tube cut to size was L26, ... glued with polyzap to secure. I need to design a multiplexer switcher next for it and **also condition each tube before use**

... I still experimenting with the Tesla cell and have used many configurations to drive it including Meyer VIC. I am begining to finalise a circuit. ... 2n3055 power transistor in common collector mode. This is driven from a 555 timer at frequency of 11KHz with a Mark/Space 78%, the timer is buffered with a couple of low power transistors. ... To get results the tubes have to be conditioned over time, it is an alchemical process, a film is formed on the surface, that is only one of the key processes going on.

Hi, for those who have tried to replicate the xogen.com patent this may be of interest. Here are my test results that **show the xogen claims are true**.

Gas = 137cc, Current true RMS = 0.1875Amps, Time = 21mn, Volt across Cell true RMS = 1.5V + 2.4V Cell Potential = 3.9V, Power = 0.73Watt. Hydrogen = 91.3cc, Oxygen = 45.7cc. By Faraday calcs for current 0.1875A @ 21 minutes = Hydrogen=27.7cc and Oxygen=13.8cc
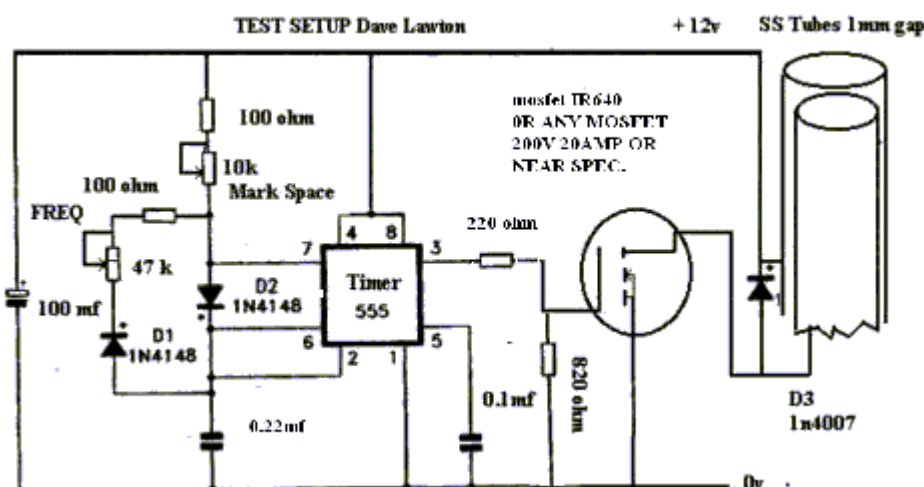
Compared with Faraday calcs we have 3 times more GAS. Xogen claim 3 times more Gas, this replication backs that claim up.

... Watts = True RMS current 0.1875A x 3.9V= 0.73125 Watt ; Waveform accross cell = square wave, frequency 11.33 Khz, duty cycle Mark 78%, space 22%.

... Tubes spaced with pieces of plastic tywrap to give 1mm gap. As regars to Xogen patent, that works but I don't like the design and have improved the output by using a medium power transistor BUX87P forming a Darlington pair with the 2n3055 Transistor but in common collector mode to give a low impedance output. I have pics and a video of my Test Cell on icube forum if you are interested: http://www.icecubenetwork.com/files/watercar/non-commercial/dave/

... Ran a straigth DC test to compare: for 480secs @ 300mA and 4.2Volts and produced 25cc of Gas ; by Faraday predicts 16.9 Hydrogen+ 8.45 Oxygen = 25.35cc gas. Pulsing appears to increase gas production. At the moment I am trying to replicate Stanley Meyer's System, I get any results positive or negative I will post them.

23 October 2004, in a post from LaserLine, p20 of this pdf file: Dave gave this to me today and I'm assuming a lot of you might be interested in this considering this is the 2nd highest viewed thread in the forum.

TEST SETUP Dave Lawton   +12v   SS Tubes 1mm gap

mosfet IR 640
OR ANY MOSFET
200V 20AMP OR
NEAR SPEC.

100 ohm
10k
Mark Space
100 ohm
FREQ
47 k
220 ohm
7   4   8   3
D2
1N4148   Timer
555
100 mf
D1
1N4148   6   2   1   5
820 ohm
0.1mf
0.22mf
D3
1n4007
0v

... A post from Freedomfuel, Oct 24, 2004: Daves comment about having to condition the cell by allowing a film to develope on the electrodes is interesting because **this is what the cold fusion guys do with their cells**. They sometimes use dual concentric electrodes like Dave's one of which is made of polished aluminium. The electrolyte is Potassium Carbonate. A 12V DC supply is connected to the cell with the positive lead going to the aluminium electrode. A very thin, insulating anodic film developes on the aluminium electrode. Then the polarity is reversed so that the aluminium electrode becomes the cathode during the experiment. Since the electric field strength is the gradient of the potential across the anodised film the electric field is strong enough, despite the low voltage, to enhance the production of charge clusters at the cathode. This is visible as a pink glow in the electrolyte and if you look carefully you can see tiny sparks coming off the cathode as the charge clusters leave an ionized trail through the solution.

In a previous post I suggested that you could make the cathode a wire inside a tube for the anode. Due to the much smaller diameter of the cathode compared to the anode the field lines converge towards the cathode giving a high enough potential gradient near the surface of the cathode to facilitate the production of charge clusters.

(The next article below this one was also extracted from this file a few months ago)

2004, Judicious comments about the Dave's circuit and Meyer's RESONANT one, From
http://www.icubenetwork.com/forum/viewtopic.php?t=98&start=0

You may generate H2 with the circuit referenecd above, but it does **not wholly**

conform to Meyers' teachings, and will not enable one to achieve the necessary resonance for Meyers-Fracturing of the water molecule. He used high voltage AC, via a torroidal core transformer. Further, his **electrolysing circuit was isolated from the primary side** (MDG nov07: like in Bedini circuits, to protect against the Radiant Energy Spikes, that like to fry electronic components), and importantly, two chokes are employed (one adjustable) to achieve a special resonance condition when coupled with the concentric tube capacitors (WFC's). Resonance is the key to the whole matter, and **without the chokes**, which are absent in the above circuit, no resonance is possible (MDG nov07: without choke, no back EMF = no Radiant Energy).

Meyer's patent link http://waterfuelcell.org/userupload/2/wo9207861a1.pdf

... The resonance frequency depends on the gap between the plates, composition of the water, tube length, and the inductors you use.

Capacitance of a given WFC **may be calculated using standard equations**: http://hyperphysics.phy-astr.gsu.edu/HBASE/electric/capcyl.html , and you can get an idea of the **pulse frequency he used** from the WO patent application, which was in the range of **about 10 - 15 KHz**.

Knowing the capacitance and approximate frequency he used enables **calculation of the approximate required total inductance of the chokes**, from standard calculations, such as those shown at: http://chemandy.com/calculators/tank_resonance_calculator.htm

This info should easily get one close to the resonance condition for a given WFC; using an adjustable choke for one of the chokes is of high utility.

MDG feb07: Personnal Remark: It seems that Stanley Meyer was using John Bedini's concept of short pulsed DC current in coils, like in his patents where John uses coils and batteries as **dipoles**, that create **Back EMF, 'pumped' ZPE** that comes and **makes the electrolysis job** in the cell, without heat; and that seems the easiest way to produce liters of Hydroxy per minute with an input of less than a Watt ...

Off course the pure resonance of a volume of water could also be found, applied directly to this water, like in Mateiro electrolysis, or John Keely's experiments for example through sound waves, but it looks much more difficult, because of much more parameters involving, and always changing (ex. temperature, acidity, volume total, ...), and may be the need of multiple waves sent simultanously.

I used to test this kind of **Dave/Hydrostar/Chemelec** circuit, sending pulsed current to the electrolysis plates/pipes, and only produced this mysterious white powder droping to the bottom of the cell ... but no extraordinary gas production; I think it is because of the poor precision in adjusting the frequencies of this kind of circuit. But this powder is already an interresting fact that should motivate to go further in experimenting ...

**A bit of Maths**: Dave reported the production of : GAS = 137cc ; CURRENT TRUE

RMS = 0.1875 Amps ; TIME= 21 Min ; VOLTS ACROSS CELL TRUE
RMS=1.5Volts+2.4 Volts Cell Potential =3.9 Volts ; POWER WATTS =0.73

That gives: 137 cc of gas / 21 minutes = 6.52 cc of gas / min with 0.73 W of power. 1
Watt of power would give 6.52 / 0.73 = 9 cc of gas/min

If we compare this production with our standard 2x6 cells in serie, straight DC
electrolyser, described above, giving 1 L of gas per minute for 210W of power (15
Amp x 14 Volts),

**We can appreciate the difference of production, because for 210 W of power,
Dave's cell should produce 1.89 Liter of gas per minute ; what is 1.89 more than
our already efficient straight DC apparatus, so it's almost 2 times more efficient
with it's design and adjusted pulsed DC ...** End of Remark.

=> Comment from **hartiberlin**, http://youtube.com/user/hartiberlin, on youtube's
video tittled 'D. Lawton Meyer Replication Test 2 -Tap Water' : Hi great cell ! Do you
already get below **2.4 Watthours of energy input for 1 Liter HHO gas** ? If yes, you
are overunity ! Please come to overunity dot com to discuss your technology. Many
thanks. Regards, Stefan. (admin of overunity dot com)
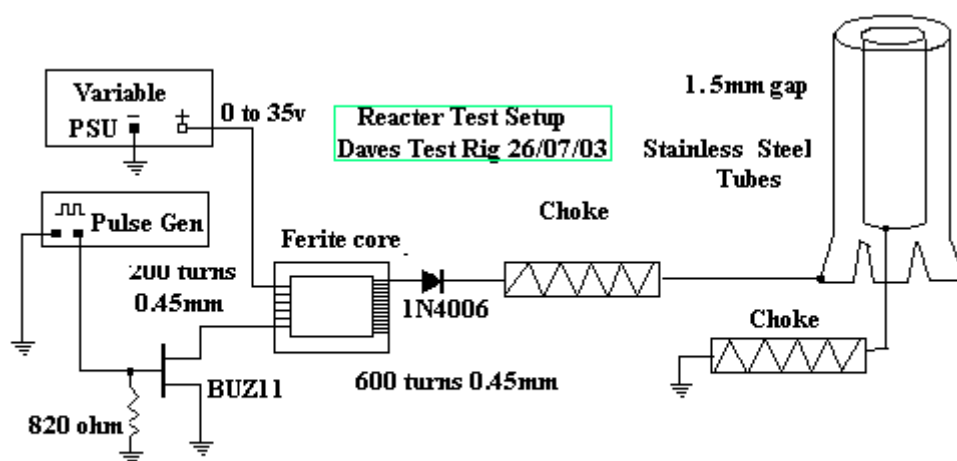
Dave said also (on the same thread as above):
- Hi Simon , The **circuit is a 555 as a astable but with steering diodes so as to
create a squarewave output with variable mark space ratio**. The timing capacitor
on pin 2 need not be as this. I play with it adding other caps as I experiment also I use
a inductor in the - drive connection on the tube. The **inductor used was about 100
turns 26 swg copper wrapped on a 1/2 ferrite core when the frequency is right
you have a reactive pulse as the field collapses, this is seen as a spike** (MDG
nov07: That's called the back EMF, and it has a higger voltage than the original
voltage applied).

An add on can be another 555 standed astable circuit with its output connected to pin
4 of the 555 so to toggle it on and off. The 555 s can be run from 12v but the mosfet

can be 35v. Best Regards Dave

- Hi Simon, First step is with new tubes is to clean with a detergent ie washing detergent, this will remove any film which bubbles cling to, it will act as a wetting agent. I then run the reacter in short bursts say 5 to 15 mins, remember you need to vent the gas outside. I have done this over a few days until you build up a polarization on tubes so that it looks like a battery , my tubes have a potentional of about 2.2 volts across them that is for two in parallel. hope this helps, Best Regards, Dave.

- No nothing to do with the Hydrostar **just a choke in series the same as Stan Meyer`s method**. The Hydrostar ferrite in my opinion is nonsense because the flux will all be contained in the core. There seems to be a bit of fog about this I think the idea came from proton precession magnetometers, the angle of the precession of the hydrogen protons can be brought into phase on application of a magnetic pulse. Best Regards, Dave.

- Yes you can **do without a gate resistor**, but if you do and remove the drive the fet buz350 will stay switched on, in a test circuit I can do without that. And viceversa you can still obtain the same amount of current as without a resistor by increasing the mark pulse .

- Hi Gary What you are saying is true. "The Real Problem in Answering your Question is **What water was he Using**. Conventional Tap water is Quite Low in Resistance. Distilled water is Higher in Resistance. Water with Baking Soda is Really Low Resistance". But in practice the space is filled with gas bubbles, on switch on the cell will draw a couple of amps, you get a high speed flow of gas. **The trick is to back off the current**, if you get it right you will see **high voltage spikes of a few hundred volts across the cell**. Best Regards, Dave.

- ... what I found is that **a few amps of current is needed to condition the cell**. When conditioning is completed you can back off the current. I saw a good idea somewere of someone **using a modified power converter**, if you can get it off the shelf use it, I think it was using a pulse width modulator chip KA3525A Fairchild driving Fets to high frequency transformer. Thats the way I am going at the moment. The nice thing about this chip is that it has **a shut down pin for the relaxation time as in Stan Meyers circuit**.. Only using one choke at the moment, still exploring other posibilities.. Best Regards Dave
; http://www.ee.surrey.ac.uk/Workshop/advice/coils/

- This may be of interest to John, its a test I did last year using Kanarev`s information:

Hydrogen **Water Fuel Cell Results Using Kanarev's Data** ;
Modern Electrolyzers consume 4 .0kWh per cubic meter of this gas. When one cubic mete of hydrogen is burnt,3.55 kwh of energy is released.

One litre of hydrogen weighs 0.09 gram:One litre of oxygen weighs 1.47 g. It means that it is possible to produce 111.11/.09=1234.44 liters of hydrogen and 888.89/1.47=604.69 litres of oxygen from one litre of water.One gram of water contains 1.23 litres of hydrogen

Energy consumption for the production of 1000 litres of hydrogen is 4 kWh and for one litre 4Wh.It is possible to produce 1.23 litres of hydrogen from one gram of water,1.23x4 =4.94Wh is spent for hydrogen production from one gram of water.

Instruments and Equipment used :
Experimental low current wfc ; **filled with tap water**; Stop watch ; Scales type Satrue model SB-200 200g 0.1 gram steps Avo Mk 9 Test Meter ; Precision Gold model Wgo20 Digital Test Meter; Racal Dana True RMS Voltmeter model 9300 ; Hameg Oscilloscope model 203-5 ; Tektronix 547 oscilloscope ;
The water fuel cell was pulsed at 6 Khz Square wave 50:50 duty cycle.
Duration of test in min. = 60 ; RMS Voltage V = 7.5 ; Ampmeter I, amperes = 0.06 ; Power P,watts hour (P=VxIxmin/60) 0.45 ; Mass of wfc in grams = 106.9 ; Mass change in grams m = 0.4 ; Evaporating water mass me, = 0.04 ; Mass of water split into gasses, m-me = 0.36 ; Existing energy consumption Wh/g water = 4.94 ; Released hydrogen quantity 0.36x1.23x0.09= 0.03985 ; Energy content of produced hydrogen (W=0.03985x142/3.6)= 1.57186 ; **Energy Efficency (Wx100/P) %)= 349 %**

Energy Efficency of this WFC is <u>349 % or overunity</u> ; Date of Test : 15 June 2004 Done by D. Lawton

- This is trying to replicate Stan Meyers method of driving a WFC using a car alternater as in US Patent 4,798,661 Fig 5 "Pulse voltage frequency generator". Also shown in the UK channel 4 documentary "IT Runs On Water". There is clip of this on the web site wasserauto.de showing the alternator and wfc. The alternator input being pulsed by The rotary pulse generator. I think it was a bit economical with the truth although it showed **less than an amp into the alternator** there was no mention of the current into the cell.

The setup I used was a modified alternator, cut the connections to the rectifier stack and regulater and made three new connections to the phases which were brought out to a new set of rectifiers and wired up as fig 5 in above patent.

The current being drawn by the cell was 4.5 amps average.The driver I used was a power fet with a 555 timer generator to drive the rotor of the alternator. The Scopeshot shows the waveforform across the cell, **20 volts peak. Frequency 500hz, pulsed at 2 Hz**. My power supply to the driver was at 12 volts and a input to alternator rotor 800 milliamps average. Best regards, Dave.

Also extracted from this thread:
- Under conventional electrolysis, the anode reaction is more efficient than the cathode reaction, which causes the pH of the solution to increase as the electrolysis proceeds. The increase in pH will of course cause precipitation of trace metals in tap water such as Ca, Mg, etc. as the carbonates or hydroxides, causing the water to cloud up as electrolysis proceeds.

In Meyer-fracturing, this pH change does not occur, which tends to support a conclusion that liberation of both H2 and O2 are equally efficient, <u>which is in line with a mechanism other than that of conventional electrolysis</u>.

In Meyer-fracturing, the anode and cathode reactions would need to be equally efficient, as well as about triple the efficiency of conventional electrolysis. The theory of this, to be correct, would need to account for the known aspects of mass transport at the electric double layer interfaces on each electrode or plate of the capacitor.

That's one way to check your results. If the pH of your test cell increases as hydrogen is liberated over time, then you're doing conventional electrolysis. The precipitation of carbonates and hydroxides will eventually cake up and cause you a mess.

The fact that **Meyer's direct H2 injectors functioned so long and had such tight tolerances, seems indicative that he wasn't producing precipitates which implies that his pH was constant**.

Also, Meyer mentioned using seawater as a water source. But electrolysis of seawater will produce hypochlorite, a.k.a. bleach, until the point is reached where there are no cations present to counterbalance the charge of additional hypochlorite, at which such time chlorine gas will evolve at the cathode. Free Cl2 is not a good thing to expose an engine to. Whatever fraction of it doesn't react with the hydrogen in the fuel or the interior components of the engine, will be expelled as aqueous gaseous hydrochloric acid, which is hardly an environmentally-benign substance !

- If you produce HCl, the acid will eventually build up to a concentration that will destroy your electrodes, and of course, anything it touches. Maybe even your engine. Considering the downside of using saltwater, it might be better if you found a way to use the exhaust heat from your engine to distill the saltwater.
Hydrogen won't strip lubrication, it just doesn't provide any lubrication. Diesel engines are designed with a dependency on the lubricating qualities of diesel fuel. High carbon steel is less flexible than regular steel. High hydrogen steel is less flexible than high carbon steel, to the point of being brittle. If engine parts don't flex, they break. Metals within most engines contain plenty of carbon due to the high carbon content of most fuels. In order to maintain the protective carbon content within the metals comprising your engine, you will probably have to continue to use some fossil fuel as you have indicated.

As I recall, **Meyer did have to clean his system if he used anything other than distilled water in it**. Coffey.

- Something curious about Stan Meyer's cell was brought up by **Peter Lindemann in a KeelyNet conference** (you can google video for it under 'free energy' about 1:34 into the video). He said Stan Meyer's design was simple enough, in that all it did was build up a charge in a capacitor (i believe that would be the cell itself) that reached catastrophic peak, then dumps that charge resulting in the fracture of water. This of course is repeated several times in the course of a moment (very vaguely speaking with my zero knowledge).
(MDG nov07: See below my transcription of this video, the part concerning Stan Meyer, that is also on Youtube.com)

- I can see the need for the dual frequencies when using the high voltage designs. Particularly when using Meyer's rapid-fire pulsing. Shutting off the pulsing at regular

intervals as Meyer does, allows for a settling time (or a re-gauging time) for the water to settle back down to a lower voltage. Since Meyer is using high voltage AC at a mostly positive potential (due to the duty cycle), the water will eventually charge to a high positive potential, at which point the electron flow will become thinner and thinner. To put it another way, since the electron flow created by the single polarity application of a high positive voltage is the catalyst for excess gas production, **the pulsing has to be shut off on a regular basis to allow the water to regain its lost electrons**.

But in the low voltage AC designs, the low voltage AC current is allowed to make a complete circuit, so that electrons are fed into the water as fast as they're removed. Thus, there is no reason for a re-gauging period since the water is constantly getting all the electrons it needs to maintain the electron flow. The water also remains at an overall potential that's fairly close to zero volts.
So, if one uses the pulses of the three phases of an alternator, one shouldn't need any timers at all. Coffey.

- I know a patent has been applied for on a device that uses two radio frequencies to fracture water. The guy uses both a UHF and a VHF frequency to do the job. RF being what it is, the effect only takes place on the surface of the water. In order to create more surface area, he uses a spray nozzle to create a mist inside the reaction chamber. He also heats the water to near boiling.
Seems to me that Stan Meyer used a pulsating magnetic field and LED light at certain wavelengths to augment production. I know he used a pulsating magnetic field and LED light to help raise electron orbital paths on individual oxygen atoms so he could strip more electrons off. My understanding of the results of doing this is the oxygen and hydrogen can't easily recombine, and attempts to bond during ignition create even more heat than normal. Coffey.

- My question is this: **With the blocking diode, doesn't that prevent resonance?** You also mentioned somewhere that you could tell no difference with the choke or without. Also, if it cannot resonate with the blocking diode, doesn't that mean that you are really pulsing the + on the water cell with longitudinal pulses and that is more important that resonance? Maybe it can resonate with the diode, but I'm not sure how. With the pulse on, the inductor is charged. When the pulse is shut off, the inductor relaxes and its charge in the same direction towards the + on the cell. So wouldn't the cell + be getting spiked with a frequency double that of the pulse generator? One from the initial spike and one from the inductor when it relaxes? So maybe the effect has nothing to do with resonance really but frequency is definitely important. If not resonance, then a straight longitudinal "wave" pulser? Everything is unidirectional. Qiman13.

- Thought of using a pump to circulate the water thru a filter, but have found that if I use **powerful magnets at the bottom of the cell the water spins**. This could be a no external energy way of accumulating the crap. Still playing about with this idea as pulse coils will probably have the same affect. Gary.

- Hi Gary, what material is your plates or tubes made from? I use t304 steel tube setup and I get no gunk. The only thing that even appears to corrode are the non ss leads that connect to the positive tubes.

Also, **if getting gunk, then most likely you are getting too much regular electrolysis. The idea is to prevent current from doing that. Therefore, no oxygen can go to your positive plates/tubes and oxidize them**.

The circuit is not a resonant circuit. The water doesn't go into some magical resonance. <u>The blocking diode should be telling you all something.</u> No resonance. The voltage never drops to negative.

- What is the difference between a transverse wave and a longitudinal impulse? http://www.gmi.edu/~drussell/Demos/waves/wavemotion.html , and http://www.glenbrook.k12.il.us/gbssci/phys/Class/sound/u1l1b.html , and http://www.glenbrook.k12.il.us/gbssci/phys/mmedia/waves/lw.html

3 very good basic examples. Unidirectional DC pulses are not transverse waves. They are longitudinal impulses. The whole secret is sending TIME IMPULSES to the water.

What the goal is is to pump the water with radiant energy. This is **nothing but pure voltage potential with no current**. When it is done right, you can **create the voltage potentials without ever inducing electrons to flow to begin** with. Imagine not having all the problems of having to restrict amps. I will be happy to share this with anyone who is serious.

- The most current test I did. I used a variable ac which has 5 amps max and 150v max. Output thru bridge and pulsed DC through a diode and that straight to my tube setup. This was only to test the cell. **Without the inductor, current of course jumped up to about 3-4 amps at only about 7 volts. <u>When I put the inductor after the diode, I could crank it up to about 25 volts and the amps were only as low as about 400-500 milliamps</u>**. Just had to see for myself that this was happening.

... Imagine this and you can all test it for yourself. Hit a capacitor at high frequency **with nothing but the voltage potential spikes and it WILL charge up**, however, **<u>there is no current moving</u>**. Sounds strange but I can go into details later. Just try it and you will see. How can a capacitor charge up without current? That is what you're all trying to do with the water cell. **You're charging it with pure voltage potential and NO current**. Imagine having an input that is voltage potential spikes as well and no current...very very very efficient!

I'm talking about **pure radiant energy. <u>Radiant energy ARE the voltage spikes you make</u>. Those spikes are radiant energy with NO electrons**. There is a small amount of current in these systems and that little bit is just enough to rip the molecules apart and it is pulsed so there is no steady current. On the collapse, all those molecules have access to a sea of potential radiant energy that have been pumped into it.
The radiant energy comes from vacuum energy. The virtual photon flux of the quantum mechanical vacuum. The dipole (battery, etc...) breaks the symmetry of the virtual photons and they move towards the polse on a battery and flow over the wire. The power to power a lightbulb from a battery does NOT come from the inside of the battery. The electrolytes do ONE thing and ONE thing only. Separate their internal charges to create a high and low potential at the electrodes. It is the vacuum energy from 3d space and time that move toward the electrodes and over the wires. This flow

is what induces the electron movement to have current. That flow can be manipulated to move over wires in a way that induces NO electron movement, therefore there is NO current ... only voltage potential.

... I am confident though about the concept of what Meyers' was doing. Pumping radiant potential into the water with no current or at least a bare minimum. **Meyer 4798661 patent has the schematic that is nearly identical to the one used for battery charging of Bedini...**

The coils I'm using are 1:1 turn. 12 volts in and the collapsed pulses are nothing but pure potential spikes of about 250-300 volts but virtually no amps. Those are going through a bridge to charge a cap. When the cap is charged up, it is discharged into dead batteries.
How can that be if the turns are 1:1?
<u>**1:1 is the most efficient coil for producing the radiant spikes that are devoid of electrons**</u>.

- According to my research extended periods of water electrolysis will cause the **build up of an insulating film on the plates** which will cause the apparatus to heat up. The film **may originate from impurities in the water such as calcium** which could explain why Xogen required tap water for their cell to function fully. In a science experiment in which **pure water is used the explanation provided is that Hydrogen at the cathode (have I got this right?) could combine with say Nickel in the cathode to make a Hydride compound**.

- If you do a Google Search, you will come up with Hundreds of these **Ignition coil circuits**. Most of them just use a **555 driving a Mosfet**.
But if the Purpose of this is to Produce hydrogen through Electrolysis, I suggest you stick with Low Voltage and a PWM Circuit. Even Though you might have a High Voltage coming out of that Ignition Coil, You will NOT have High Voltage going through the Cell. The Relatively Low Resistance of the cell, Verses the Very Low Current of that High voltage will Pull the actual voltage down to no more than your voltage is now. Probably even Lower. "Basic Ohms Law". Take the Output from an Ignition Coil, Place it across even a Small Flashlight bulb. It will NOT Light the Bulb. And if you put a Meter Across it to measure the Voltage it will be Almost Nothing. (MDG nov07: In the case of Stan Meyer, the electrolysis cell is used like a capacitor, with pure as possible water as DIELECTRIC, so IT HAS A STRONG RESISTANCE to electron flow, until the breakdown level is reached ... so may be an ignition coil used as step up transformer, to send high voltage pulses in a choke/coil/bifilar coil is a GOOD IDEA ...)

- One of the Reasons for Pulsing is to give Allowance for the Bubbles to Rise, Allowing for better Conduction in the Solution.

- hydrotech wrote: I am producing enough gas to run my motorcyle 75% on water through 12v 5 amp battery without any battery or engine problem. I suppose this is what everybody wants, it should serve your purpose without creating much problem. And i can tell you that through your electrolyser also it can be run . Why do people tend to forget to modify their engines parts for the cell to work correctly. I would be further uploading more details regarding the gas production methods. According to

my plans if i use a circuit like yours along with the present system i dont know how much gas can be produced, but that would really be immense ; really enough gas to power a car solely on HYDROXY GAS Maybe something like what Daniel Dingel is doing . HYDROTECH . TAUFIQUE A KHAN.
(MDG nov07: motorbikes can save easily a lot of fuel with a very small electrolyzer, as written above ; and I have run one motorbike on hydroxy only, but at fix place, with a small electrolyzer, and starting on hydroxy was not possible ; also have a friend that can run his Virago 500cc on Hydroxy only, shutting of the fuel income, at fix speed on the road, at 80 km/hour, the rest of time he saves an average 50%. All that is with simple DC electrolysis)

- I think that I may have figured out the function of the **torroidal coil in Daves cell and which first appeared in the Xogen patent**. I never believed that it had anything to do with changing the proportion of Ortho to Parahydrogen. My hypothesis is that the coil acts as an antenna to focus energy from the environment and improve the efficiency of the electrolysis. I reached this conclusion after reading about two 'free energy' scams on the internet which use torroidal coils as antennas for the wireless transmission of electrical energy. It was Tesla who first demonstrated the wireless transmisson of energy using longitudinal/scalar waves from a spherical antenna. Later in the 1930s a Tesla fan demonstrated an electric car powered from a remote transmitter using the same techniques. Any type of coil can be used as antenna if it does not produced an induced emf from a changing magnetic field. This is because these longitudinal/scalar electric waves do not contain a magnetic field vector. Other types of coil you could use are caduseus coils and bifalar wound coils shorted at one end.

- Yes a Coil can act as an antenna, But Typically it works best if it Open Ended and at a Resonant point of the Origional Frequency. If a Closed circuit it can Radiate Electromagnetic Energy, basically an Air Core transformer sending it into another coil.

- I've been following Daves cell for a while now in the shadows and looking at **qiman13's developments** as well (recently banned) and I am deffinetly liking Daves setup being solid state as apposed to bedini's wheel of magnets over a coil.

- I will do some DC Pulse experiments with just **926Hz based on Mateiro specs**. Dinu http://www.oumachines.com/

- The Meyers cell seemed a little complicated until I recenlty watched the **Peter Lindemann video on free energy devices**.
http://video.google.com/videoplay?docid=6183263096342406828&q=chemalloy ;
Forward the video to about 1 hour and 34 minutes. He starts **talking about Chemalloy then moves on to explain how Meyer's cell works**. You can find the video here: http://www.icubenetwork.com/files/watercar/non-commercial/dave/videos/Wfcrep.WMV ; Make sure you download the file and don't stream it, so click Save As...
(MDG nov07: See article below on this video, from Youtube.com)

-- Return to the top

Meyers water cell, by the very very good **panacea-bocaf.org** website: http://panacea-bocaf.org/Meyerswatercell.htm

Meyer's hydrogen water fuel cell technology has been suppressed due to the murder of the inventor and the inventor's business incompetence. This is mentioned in more detail in both the 'where they went wrong page' and further under Panaceas 'media script' on the energy suppression page.

Meyer's technology has since been resurrected by two open sourced engineers. Panacea can directly create more public benefit from their replication results from the Panacea facilities.

Patrick Kelly one of the founding members and helping hands of Panacea together with another open sourced engineer Dave Lawton have collaborated together to disclose the worlds first open sourced successful replication of the Meyers device.

Shots of the Meyers hydrogen water fuel cell replication taken from the video.

A close up of the hydrogen production **created from only 12 volts! not possible via conventional theory**.

With out going into too much technical detail of how the water fuel cell operates, the technology is much like Xogen's technology - being unconventional electrolysis.

Both open sourced engineers are known to Panacea, their open sourced contribution can thrive in the granted center's conditions which can help with manufacture and provide further public benefit.

This public benefit involves submitting the technology at the faculty level in the Panacea facility to display a proof of principle towards upgrading the current conventional water electrolysis theories towards cleaner FREE ENERGY production.

Then there is the social reform the Panacea facility will create by providing public security and access to the technology, as will be the case with all the other principles mentioned on the panacea page. Panacea's granted facilities can also secure a manufacturing assistance in production of the units.

The grant conditions in Panacea allow for quicker public dissemination of the technology via this route.

All profit from Panacea's role in this route must by law go back into an environmental cause, and or into charitable contributions. All the funds by any licenses created from this technology must by law go back into environmental benefit.

The Meyers technology will be studied and submitted into the centre for public security and access.

Full details, photos, diagrams and components list to reproduce the Dave Lawton Replication, 4 sept 2006 download the Patrick Kelly's excellent file named 'D14.pdf' available at http://www.panaceauniversity.org/D14.pdf

... The tubes in this replication are made of 316L grade stainless steel, five inches long although Stan's tubes were about three times that length (14 to 23 inches). The outer tubes are 1 inch in diameter and the inner tubes 3/4 inch in diameter. As the wall thickness is 1/16 inch, the gap between them is between 1mm and 2mm. The inner pipes are held in place at each end by four rubber strips about ine quarter of an inch long.

The container is made from two 4 inch diameter plastic drain downpipe coupler fittings connected to each and of a piece of acrylic tube with PVC colvent cement...

It should be noted that shiny new stainless steel is not suitable for use as an electrode in any form of electrolysis. This can be seen in Joe Cell construction where the stainless steel cylinders need to be conditioned through repeated short periods of electrolysis. The same applies to flat plate electrolysers, where Bob Boyce points out that no serious volumes of gas will be produced until the stainless steel plates have received a white coating, produced by leaving them to sit unused in the Potassium Hydroxide solution for a few days. The same applies to this replication of Stan Meyer's electrolysis unit. When the power is first applied, very little electrolysis takes place as the active surfaces of the pipes get covered with bubbles which stick to them. However, if they are left for a while with the bubbles in place, a brown scum forms on the surface of the water. The scum is cleaned off and another short period of

electrolysis carried out to cover the plates with bubbles again. After this process has been carried out repeatedly, the brown scum no longer forms and the active tube surfaces have a white coating. At this point, the 'conditioned' tubes produce the kind of rapid electrolysis shown in the video.

... The electrical connections to the pipes are via stainless steel wire running between stainless steel bolts tapped into the pipes and stainless steel bolts running through the base of the unit:
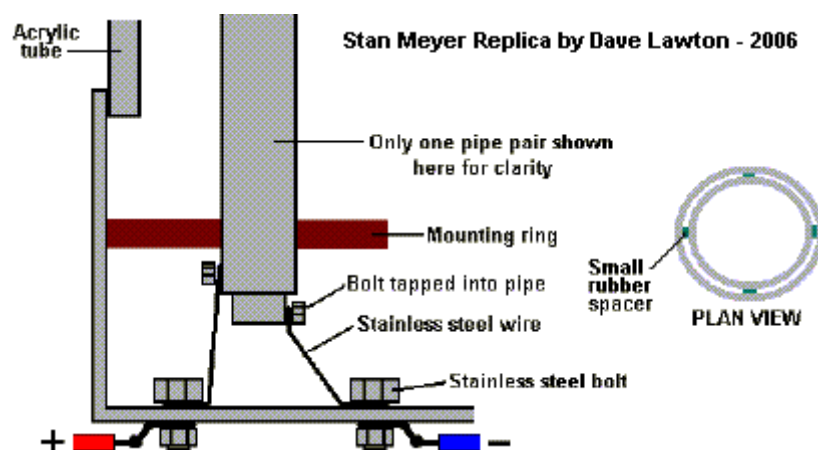
Meyer's testing setup, picture from Youtube.com video

The bolts tapped into the inner tubes should be on the inside and the bottom of the two tubes aligned in spite of them being spread out as shown above. The diagram shows the inner connection on the oustide, only for clarity. The bolts going through the base of the unit should be tapped in to give a tight fit and they should be sealed with Sikaflex bonding agent or some similar waterproofing material.

While the above circuits have been assessed as operating at about 300% of the Faraday assumed maximum efficiency, further experimentation has shown that the inductors used by Stanley Meyer form a very important role in raising the operating efficiency still higher. Dave has recently introduced two inductors, each wound with

100 turns of 22 SWG (21AWG) enamelled copper wire on a 9mm (3/8") diameter ferrite rod 25mm (1 inch) long. The improved circuit is now, as 20 sept07:
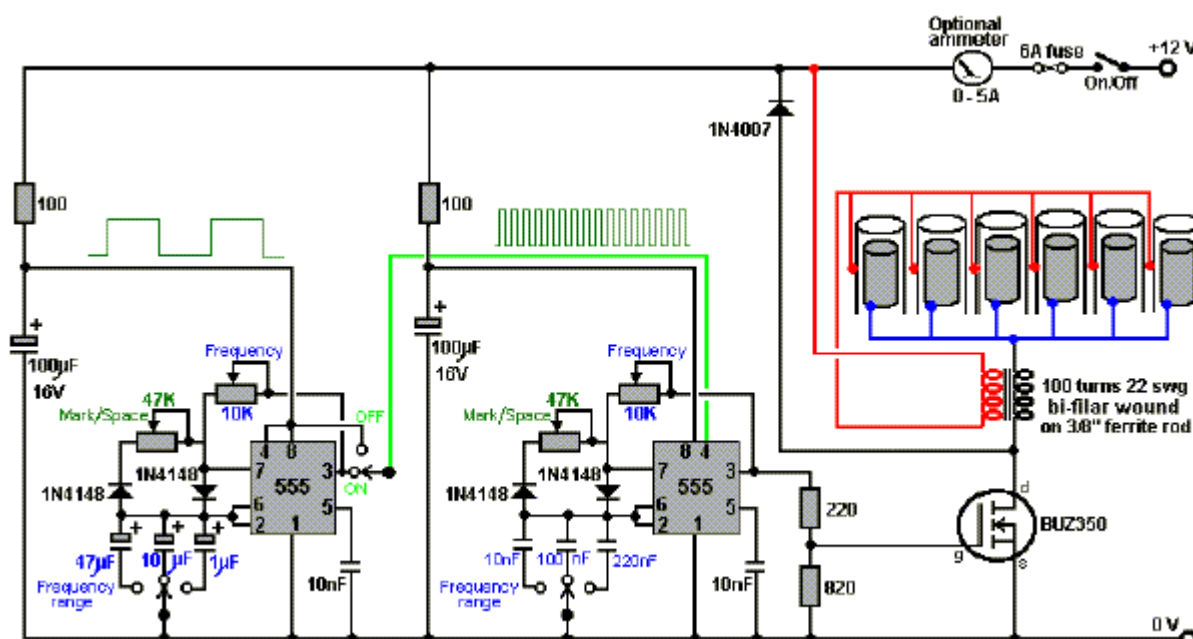
Circuit operation: Each NE555 timer chip is placed in an oscillator circuit which has both variable pulse rate ('frequency') and variable Mark/Space ratio which does not affect the frequency. These oscillator circuits also have three frequency ranges which can be selected by a rotary switch. The variable resistors each have a 100 ohm resistor in series with them so that their combined resistance cannot fall below 100 ohms. Each oscillator circuit has its supply de-coupled by placing a 100 microfarad capacitor across the supply rails and feeding the capacitor through a 100 ohm resistor. This has the effect of reducing any pulsing being carried along the battery connections to affect the adjoining circuit.

The first NE555 circuit has fairly large capacitors which give it comparatively slow pulses, as represented by the waveform shown above it. The output from that NE555 is on pin 3 and can be switched to feed the waveform to pin 4 of the second NE555 timer. This gates the second, higher frequency oscillator On and Off to produce the output waveform shown just below the pipe electrodes. The switch at pin 3 of the first NE555 allows the gating to be switched off, which causes the output waveform to be just a straight square wave of variable frequency and Mark/Space ratio.

The output voltage from pin 3 of the second NE555 chip is reduced by the 220 ohm/ 820 ohm resistor combination. The transistor acts as a current amplifier, capable of providing several amps to the electrodes. The 1N4007 diode is included to protect the MOSFET should it be decided at a later date to introduce either a coil ('inductor') or a transformer in the output coming from the MOSFET, as sudden switching off of a current through either of these could briefly pull the 'drain' connection a long way below the 0 volt line and damage the MOSFET, but the 1N4007 diode switches on and prevents this from happening by clamping the drain voltage to -0.7 volts if the drain is driven to a negative voltage.

The BUZ350 MOSFET has a current rating of 22 amps so it will run cool in this application. However, it is worth mounting it on an aluminium plate which will act both as the mounting and a heat sink. The current draw in this arrangement is particularly interesting. With just one tube in place, the current draw is about one amp. When a second tube is added, the current increases by less than half an amp. When the third is added, the total current is under 2 amps. The fourth and fifth tubes add about 100 milliamps each and the sixth tube causes almost no increase in current at all. This suggests that the efficiency could be raised further by adding a large number of additional tubes, and as the gas is produced inside the tubes and the outer tubes are connected electrically, they could probably be bunded together.

Although the current is not particularly high, a six amp circuit-breaker, or fuse, should be placed between the power supply and the circuit, to protect against accidental short-circuits. If a unit like this is to be mounted in a vehicle, then it is essential that the power supply is arranged so that the electrolyser is disconnected if the engine is switched off. Passing the electrical power through a relay which is powered via the ignition switch is a good solution for this. It is also vital that at least one bubbler is placed between the electrolyser and the engine, to give some protection if the gas should get ignited by an engine malfunction. It is also a good idea for the bubbler(s) lid to be a tight push fit so that it can pop off in the event of an explosion, and so further limit the effect of an accident.

Further Developments: When producing hydroxy gas from water, it is not possible to exceed the Faraday maximum unless additional energy is being drawn in from the surrounding environment. As this cell runs cold and has substantial gas output, there is every indication that when it is running, it is drawing in this extra energy.

This idea is supported by the fact that one of the key methods of tapping this extra energy is **by producing a train of very sharply rising and sharply falling electrical pulses**. This is exactly the objective of Dave's circuit, so it would not be too surprising if that effect was happening.

THe additional energy being accessed is sometimes referred to as 'cold electricity', which has a very different characteristics to normal conventional electricity. Where normal electrical losses cause local heating as a by-product, 'cold' electricity has exactly the opposite effect, and where a normal electrical loss would take place, an extra inflow of useful 'cold' energy enters the circuit from outside. This flow causes the temperature of the circuitry to drop, instead of increase, which is why it is called 'cold' electricity.

This remarkable occurence has the most unusual effect of actually reducing the amount of conventional power needed to drive the circuit, if the output load is increased. So, increasing the load powered by the circuit causes additional energy to flow in from the environment, powering the extra load and as well, helping to drive the original circuit. This seems very strange, but then, 'cold' electricity operates in an entirely different way to our familiar conventional electricity, and it has its own set of unfamiliar rules, which are generally the reverse of what we are used to.

To test his cell system further, Dave connected an extra load accross the electrodes of his cell. As the inductors connected each side of the cell generate very high-value,

sharp voltage spikes, Dave connected two large value capacitors (83,000 microfarad, 50 volts) accross the cell as well. The load was a 10 watt light bulb which shines brigthly, and **interestingly, the current draw of the circuit goes down rather than up, in spite of the extra output power**. The gas production rate appears undiminished.

This is the alteration to that part of the circuit which was used:
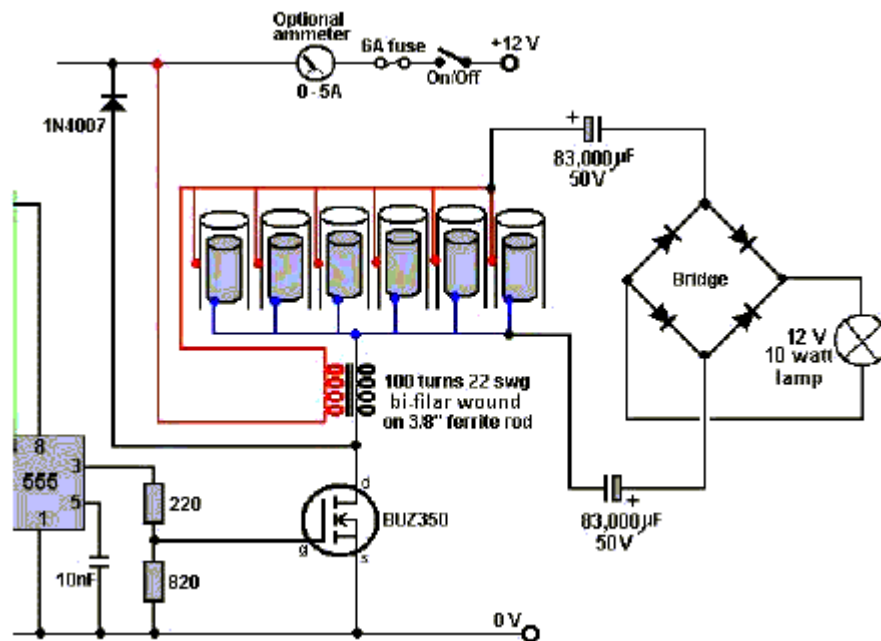
... Dave, who built this replication, suggests various improvements. Firstly, Stan Meyer used a larger number of tubes of greater length. Both of those two factors should increase the gas production considerably. Secondly, careful examination of video of Stan's demonstrations shows that the outer tubes which he used had a rectangular slot cut in the top of each tube:
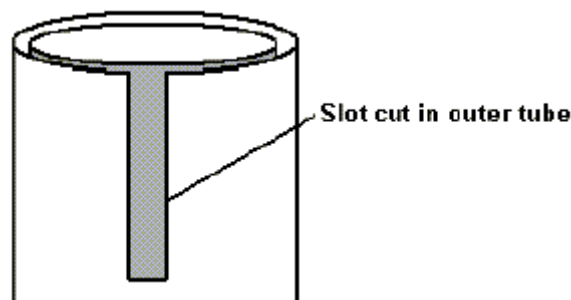
(MDG nov07: see specific article about the tubes resonating subject, below)

Some organ pipes are fine-tuned by cutting slots like this in the top of the pipe, to raise it's pitch, which is it's frequency of vibration. As they are thinner, the inner pipes in the Meyer cell will resonate at a higher frequency than the outer pipes. It therefore seems probable that the slots cut by Stan are to raise the resonant frequency of the

larger pipes, to match the resonant frequency of the inner pipes. If you want to do that, hanging the inner tube up on a piece of thread and tapping it, will produce a sound at the resonant pitch of the pipe. Cutting a slot in one outer pipe, suspending it on a piece of thread and tapping it, will allow the pitch of the two pipes to be compared. When one outer pipe has been matched to your satisfaction, then a slot of exactly the same dimensions will bring the other outer pipes to the same resonant pitch. It is said that Stan ran his Lolkswagen car for four years, using just the gas from four of these units.

A very important part of the cell build is the conditioning of the electrodes tubes, using tap water. This is done as follows:

1 - Do not use any resistance on the negative side of the power supply when conditioning the pipes.
2 - Start at 0.5 Amps on the signal generator and after 25 minutes, switch off for 30 minutes.
3 - Then apply 1.0 Amp for 20 minutes and then sstop for 30 minutes.
4 - Then apply 1.5 Amp for 15 minutes and then stop for 20 minutes.
5 - Then apply 2 Amps for 10 minutes and afterwards stop for 20 minutes.
6 - Go to 2.5 Amps for 5 minutes and stop for 15 minutes.
7 - Go to 3.0 Amps for 120 to 150 seconds. You need to check if the cell is getting hot... if it is you need to reduce the time.

After the seven steps above, let the cell stand for at least an hour before you start all over again.

You will see hardly any gas generation in the early stages of this conditioning process, but a lot of brown muck will be generated. Initially, change the water after every cycle, but **do not** touch the tubes with bare hands. If the ends of the tubes need to have muck cleaned off them, then use a brush but not touch the electrodes !! If the brown muck is left in the water during the next cycle, it causes the water to heat up and you need to avoid this.

Over a period of time, there is a reduction in the amount of the brown stuff produced and at some point, the pipes won't make any brown stuff at all. You will be getting very good gas generation by now. A whitish powdery coat will have developed on the surface of the electrodes. Never touch the pipes with bare hands once this coating has developed

Important: Do the conditioning in a well-ventilated area, or alternatively, close the top of the cell and vent the gas out into the open. During this process, the cell is left on for quite some time, so even a very low rate of gas production can accumulate a serious amount of gas which would be a hazard if left to collect in a small space.
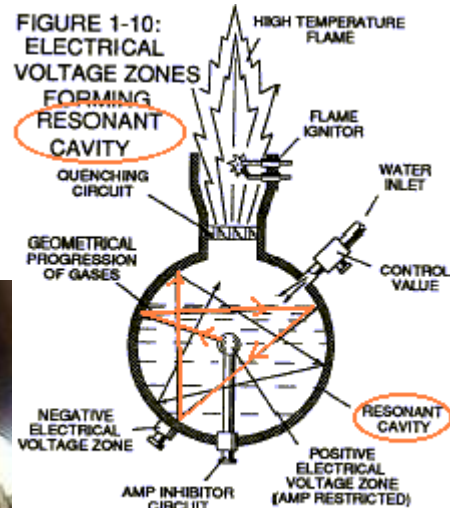
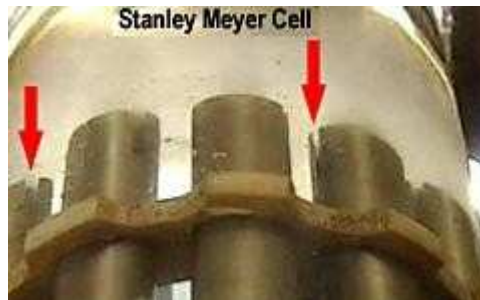--- Return to the top

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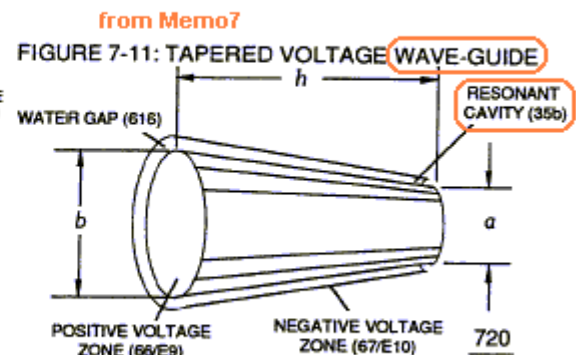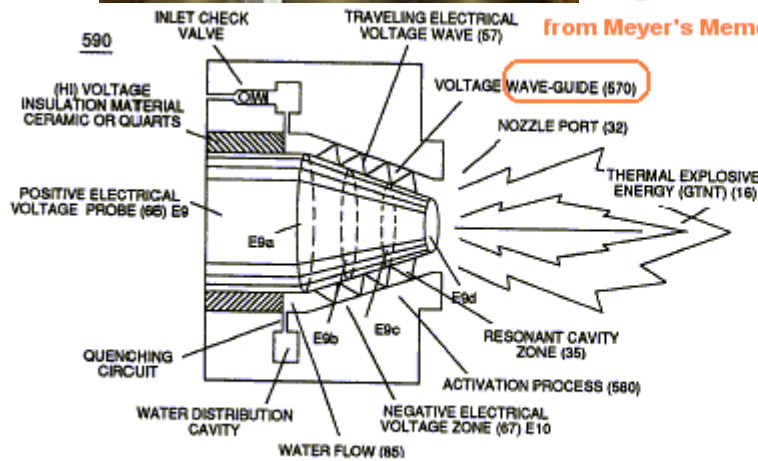## **About the tubes resonating subject**:

According the tubes vibrational frequencies, may be an additional improvement to increase efficiency, Sir Griffin also said about the tubes: ' **They are 14 inches long and are effectively waveguides**.'
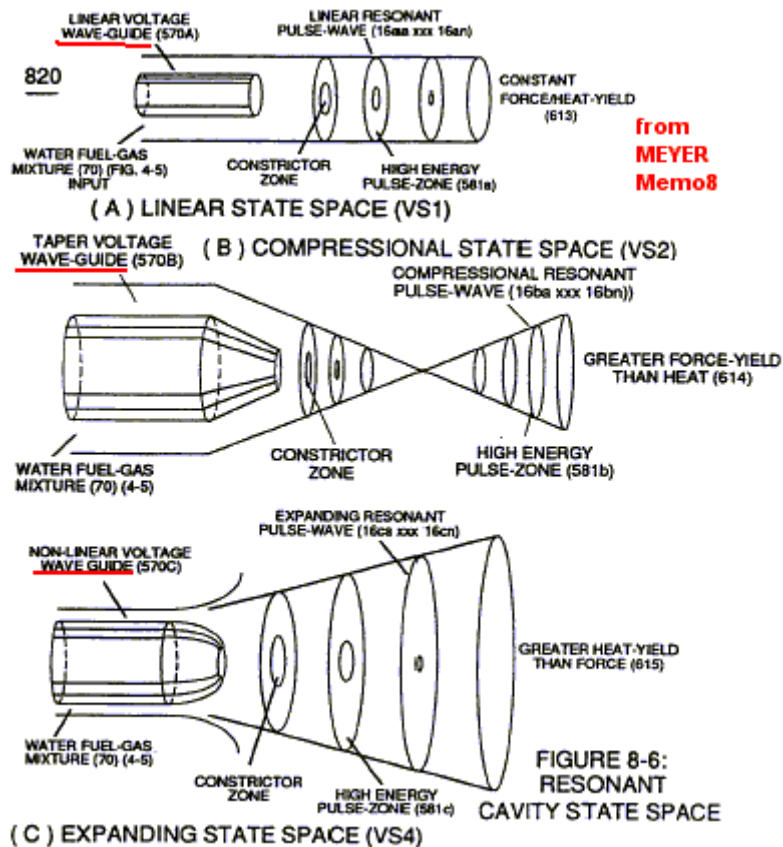
FIGURE 1-10: ELECTRICAL VOLTAGE ZONES FORMING RESONANT CAVITY

HIGH TEMPERATURE FLAME

FLAME IGNITOR

WATER INLET

QUENCHING CIRCUIT

GEOMETRICAL PROGRESSION OF GASES

CONTROL VALUE

RESONANT CAVITY

NEGATIVE ELECTRICAL VOLTAGE ZONE

POSITIVE ELECTRICAL VOLTAGE ZONE (AMP RESTRICTED)

AMP INHIBITOR CIRCUIT

Stanley Meyer Cell

from Meyer's Memo 1, about pure voltage and resonance in a cavity ...

from Meyer's Memo6

590

INLET CHECK VALVE

TRAVELING ELECTRICAL VOLTAGE WAVE (57)

(HI) VOLTAGE INSULATION MATERIAL CERAMIC OR QUARTS

VOLTAGE WAVE-GUIDE (570)

NOZZLE PORT (32)

THERMAL EXPLOSIVE ENERGY (GTNT) (16)

POSITIVE ELECTRICAL VOLTAGE PROBE (66) E9

E9a

E9d

E9b E9c

RESONANT CAVITY ZONE (35)

QUENCHING CIRCUIT

ACTIVATION PROCESS (580)

WATER DISTRIBUTION CAVITY

NEGATIVE ELECTRICAL VOLTAGE ZONE (67) E10

WATER FLOW (85)

from Memo7

FIGURE 7-11: TAPERED VOLTAGE WAVE-GUIDE

h

RESONANT CAVITY (35b)

WATER GAP (616)

b

a

POSITIVE VOLTAGE ZONE (66/E9)

NEGATIVE VOLTAGE ZONE (67/E10)

720

According the frequencies of the electrodes could improve the process of organizing the ZPE field to harnest more of it ...

FIGURE 8-6: RESONANT CAVITY STATE SPACE

from parallel LC or serial LC

http://waterfuelcell.org/phpBB2/viewtopic.php?t=514&start=15&postdays=0&postorder=asc&highlight=

- stevie1001, Posted: Sun Sep 23, 2007 7:05 pm:

[...] The Pipes and conditioning: You are right about the proces of conditioning. I have to do that again when finishing my cleaning and cutting.

But there is more. Ron, we are with a lot of people focussing on the electronics and a bit on the pipes. After all kinds of configurations with coils and trafo's I have made a conclusion. As Stanley said many times: Its all about securing his patents. In other words: CRAP.

Yes, you can double frequency with the VIC and Yes you can get higher voltage. And he is smiling in his grave, if you ask me.

In all his patent with the VIC **you see less info about his pipes/tubes**. But if you read well, I think that there is the real thing happening. **He talks about resonance. The resonant cativy!!!!**

He discripes three different designs of his resonant Cavity's. Resonance in coils is what everybody understands and is trying with all the same bad results. Are we all stupid? NO.

I tryed to find any info or tread in many forums about the **Resonant Cavity stuff**.

NOT much to find as well! This is also a clue.

Stanley published a formula how to calculated his pipes with care............. I try to find out what to do with that.

Focus: 20Khz is a nice frequency for getting Hydrogen. So how would pipes look like for resonanting on 20Khz? Its about lenght and spacing between the 2 pipes. Perhaps also about some kind of form of the pipe-ending. (sorry for my poor english)

Ron, what do think about my theory after all the time you spend with this subject? (and all you other guys as well, of course......)

- h2o2go, Posted: Mon Sep 24, 2007 12:24 am :
I'm just getting into this as a project but I have wondered about the resonance of the pipes as well. One of my thoughts was about mounting the pipes. I've looked at lots of pictures of different setups and nearly all have one or both ends of the pipes rigidly mounted. If the pipes' resonance is what's needed to assist the breakup of the water molecule then isn't everyone making their work harder by "locking down" the ability of the pipes to "ring"? From some of the pictures and vids I've seen, some of the best results were from test pipes that were merely suspended in the tank for testing instead of rigidly mounted.

My thoughts have been to "tune" the pipes to the same tone and then hang them in such a way that lets them vibrate with the frequencies being pumped into them. My thoughts were to drill holes through the paired pipes near the top and to notch the bottoms and then use ceramic rods to suspend them in the tank. They'd hang from the top rod while the bottom rod would act as a "swing stop" with the pipes notches being over it. Small rubber washers (or something else that won't conduct) could be used to keep the tubes separated. To me this would allow the pipes the easiest chance of "ringing" with the frequency needed without huge amounts of power being needed. We need to be thinking "musical instrument" and not "industrial vibrator".

- stevie1001, Posted: Mon Sep 24, 2007 12:59 am:
Perhaps you are right about the mechanical structure thing here. I was more thinking about some kind of wavepipe, like you have with Ghz filter stuff.

The voltage wave should bounch between the innerpipe and the outerpipe as if the frequency of the wave matches the space between them.

Another theory: At this moment we all put one wave in one pipe and the other pipe is ground. Perhaps we have to start thinking of 2 waves. One in each pipe.

Try to get resonance between two frequencys, like 20khz and 60Khz. I read something about the 20Khz is nice to Hydrogen and the difference should be 1/3

- KISS, Posted: Mon Sep 24, 2007 1:53 am :
Even if 2 tubes, inner and outer, are tuned to ring the same, once you put a spacer between the 2 to space them, that spacer would act as a dampner and the pipes would not ring. That would be the hanging a set of tubes from a string scenerio.

Other than that scenario.... any touching of the pipes such as standing them on the floor of the cell container, connecting them to any mounting framwork, or even together, would dampen or disrupt the ringing of the pipes.

Not saying this would stop them from ringing at all... but would effect it considerably. Stan had his set up to where all the tubes were tied together with a mounting plate.

- h2o2go, Posted: Mon Sep 24, 2007 1:54 am :
Depending upon circuit hookup, just going by electron flow, the "ground pipe" is getting the wave first and the water is the media whereby the wave propagates to the positive pipe so both should be resonating at the same freq. but with a small "delay" (or timing offset) because of the time to traverse the water between. As far as one pipe being "ground" that's only if you connect it to "circuit ground". Being that these get fed from the secondary of the transformer, you can leave it isolated from "ground" thus leaving the loop(s) to "float" at whatever potential is created. From the circuits drawings I've observed the pipes are being pulsed in one direction only so as not to cancel the effect with the reverse voltage direction.

- h2o2go, Posted: Mon Sep 24, 2007 1:59 am:
In my mounting scenario, the spacers would be on the ceramic rods and allow movement between the pipes without the pipes being able to touch thus allowing maximum vibrational movement...If it truly is about resonance, then allowing maximum ability to vibrate would require less power to initiate the effect.

- stevie1001, Posted: Mon Sep 24, 2007 3:37 am Post subject: NEW TREAD ABOUT THE RESONANT CAVITY IS STARTED:
Lets continue burning our brains cells out about the pipes/tubes and the Resonant Cavitys of Stanly Meyer on a new tread. I opend it already.

Post subject: ICL8038 Waveform Generator for your pulse generators :

- sibernetik, Posted: Tue Sep 18, 2007 8:54 am :
First I make my pulse circuit with 555 timer IC but i think this IC is not perform stable and i start search electronic database pages on web aaaand

i find icl8038 wave generator.This IC is very basic and adjustable, if you can download this IC's datasheet from this adress, may be you can develope your pulse circuits
http://www.datasheetcatalog.com/datasheets_pdf/I/C/L/8/ICL8038.shtml

- hydrocars, Posted: Tue Sep 18, 2007 12:12 pm :
555 very stable! you must have done something wrong.
- http://www.diyguitarist.com/TestEquipment/FunctionGenerator.htm
- http://www.cip.physik.uni-muenchen.de/~wwieser/elec/oscillator/ICL8038/
- http://www.intersil.com/cda/deviceinfo/0,1477,ICL8038,0.html

- http://www.intersil.com/data/FN/FN2864.pdf

- hydrocars, Posted: Tue Sep 18, 2007 12:13 pm :
my secondary circuit i use.

R1 = 820 Ohms Grey Red Brown
R2 = 220 Ohms Red Red Brown
R3 = 270 Ohms Red Violet Brown
R4 = 100 Ohms Brown Black Brown
C1 = 103k or 10nf
C2 = 103k or 10nf
C3 = 104M or 100nf
C4 = 2A224K or 220nf

D1 = 1N4148
D2 = 1N4148
P1 = 10K Pot
P2 = 40k to 50k Pot

555 Timer
FQA30N40 Mosfet if can
Circuit Volts = +12

Circuit.jpg

- eclipsed78, Posted: Tue Sep 18, 2007 3:19 pm:
I think I agree with hydro, the 555 is very stable and I myself have seen my DL PWM work buitifully...I asked an electronics engineer whether the 555 chip was unstable and he answered with a question.... he said: The 555 chip was made in the 70s, if the 555 chip was unstable, why would they be still using it 30 years later.

Although he doesn't support the 555 chip with fact, here is the datasheet on the 555s that I use... NE555P by texas intruments....

I have no idea whether if this means anything but I found this: The Output-pulse rise time and the Output-pulse fall time is 100 to 300 ns tested with a capacitor of 15pF and a Temp of 25 C

The data sheet discribes the 555 as "These devices are precision timing circuits capable of producing accurate time delays or oscillation."
Ref: Texas Intruments datasheet on NE555.pdf
http://waterfuelcell.org/phpBB2/download.php?id=423

I do not know why you are having problems with the 555, but in my own experience with cars, computers, chemistry, software, women, jobs, life as we know it, there are general rules to follow, they're called Murphies laws..
rule #1: Anything that can go wrong, will go wrong. Just remember that Murphy was an optimist...

Double check everything and test all components individually...sometimes ive seen the 4007 not working and maybe the mosfet is blown..sometimes Ive just had to replace the 100ohm resistors, but sometimes Ive replaced all of the diodes just

becuase I couldnt find the problem..(it worked)...anyways use the original DL PWM setup and do not connect anything from the input (pin 4 or 8) to the Output (pin 3) as the unedited revision of the DL PWM that include inductors in the solid state circuit diagram...If you are having problems on finding the original version that included the notched tubes...here it is...

I am interested in the icl8038 though as it does look like it has cool fuctions, like individual pins for different shaped waves...Maybe some experimentation could be done to see if a different shape waves would work better...but I am not knowledgeable about electronics enough to know how to design a circuit using the icl8038, maybe if someone came up with something, I could model it in B2 spice to see if it works....

- eclipsed78, Posted: Wed Sep 26, 2007 9:29 pm:
I did a little research and found that the tlc555 texas instruments timer chip that is fully interchangable with the ne555 and it can operate up to 2 Mhz....here is the datasheet... if we want higher frequencies, i think extra capacitors would be all that is needed to the existing DL PWM..

Where the rotory 3 turn 4 pole swith is connected to the the 3 capacitors, add a 2 or more pole switch and connect it to the existing capacitors and 3 extra capacitors at smaller capacitances, and connect the extra 3 capacitors to another pole of the 3 turn 4 pole of the rotory switch ..as there are 4 different poles, these capacitors will not be connected to the other capacitors, Dave was a right to use the 3 turn 4 pole switch as it allowed more capacitors to be connected for a total of 12 capacitors....I included a drawing to visualize what Im saying.

If anything more is needed, and if anyone has any ideas on how to modify it to handle the higher freq, or if anyone has any ideas on what the capicatance values of the extra capacitors could be in order to give ranges of like 20 khz to 50 khz, 50 kHz to 100 kHz, 100 kHz to 200 kHz, 200 kHz to 300 khz......etc...it would be greatly appreciated...

I always wondered why he used those 4 pole 3 turn switches as I was connecting the capacitors... anyways, again 8038 is not nessacary, tlc555 can produce output frequencies of 2 Mhz..

-- [Return to the top](#)

Post subject: BEST CIRCUIT, Working LC :

- Hydrocars, Posted: Fri Aug 03, 2007 10:07 pm:
THE CIRCUITS IN THESE TREADS WAS IN ERROR AND DO NOT WORK, SO ATTEMPT AT YOUR OWN RISK, AGAIN, THESE CIRCUITS DO NOT WORK!

You gotta see it to believe it! i only used one ss tube cell as in my other post. Must try! Gotta try!

Maybee somebody can take this further, this is definitly the right way...

i don't know how it works, it just does! haha

This circuit doesn't produce alot of hydrogen, however i don't know how it is working, it is unexplainable how it does what it does...

i don't get it, i unplugged the freq generator, and i was working on it about to rearange some stuff and i got shocked, i touched it again, i got shocked again, i finaly realized that no matter what, im getting shocked, the circuit is resonating! and you can feel it lol.

Sloppy Hydrocars.jpeg
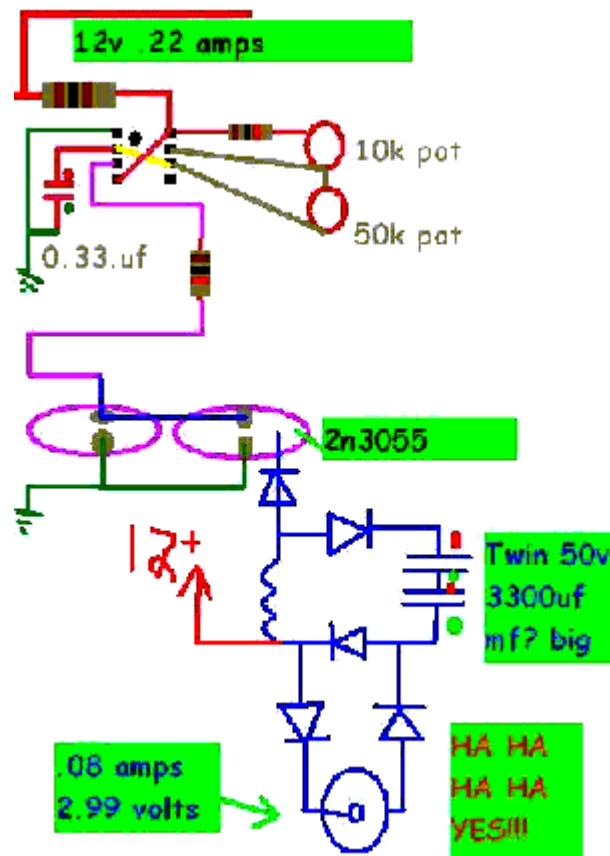
- Hydrocars, Posted: Sat Aug 04, 2007 8:50 am:
the coil was the one i used in the other post, the one from the tv, i don't know the wraps but i can measure the resistance for ya.

if you put a charge on the caps, and remove the water fuel cell, after you remove the power source you can touch the probes where the wfc hooked, you can feel it oscilating, it hurts, but you can feel it, i can bare the pain, its not all that, but i like to feel it oscillate or resonate.

2007-08-04-04917.jpg

- Hydrocars, Posted: Sat Aug 04, 2007 12:34 pm:
0.31 amps, schematic not shown

2007-08-04-08758.jpg

- Hydrocars, Posted: Mon Aug 06, 2007 12:11 am :
i have confirmed that the circuit is resonating at its own frequency. to change the frequency would mean to change the size of the coil and cap. this circuit will resonate for a long time.

To observe resonation do this. Get you a coil, all coils do not work. Use a magnetic core and the wire size around 22 or smaller seems to work best. The winding around the core should have a resistance of around 6.1 ohms. If you want to get the results i am getting.

Do this simple test. You will need 1 led, 2 diodes, any should work but i guess smaller would be better, and a capacitor, i have a 470 uf cap about the size of a quarter and about an inch tall, it works great, i also have a 470 uf cap about the size of an, well its about as round as a tip of an pool stick, not hardly that big, but any big cap should work, and some small ones.

I will make the schematic in text right now, **the led should stay lite for over 20 seconds**, and even longer if you don't use a led.

The led will stay lit as long as it is resonating, there is no need for a Frequency Generator, It don't Do anything to the circuit. You wanted resonation, Here it is, Have fun!!

Make the circuit,, i want your comments. common, i know you got diodes and coils lying around the house hehe
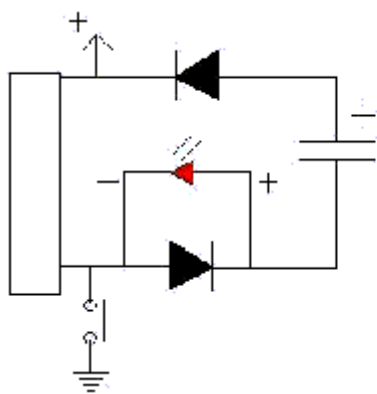
The led Should Stay lit for 20 seconds. Try moving a magnet around the inductor to watch the effect. The circuit has to be Constructed exzactly as shown before

it will work!!!!!!!!!!!

Resonator.jpeg

- Hydrocars, Posted: Mon Aug 06, 2007 12:18 am :
I think stanley left a diode out boys! you remove a diode from that circuit and it wont work.

- Hydrocars, Posted: Mon Aug 06, 2007 1:32 am :
Here ya go .... **4 volts .23 amps, this is what it gets ya!** and the frequency does seem to affect it too, i was wrong earlier.

resonance2.jpg

- stevie1001, Posted: Mon Aug 06, 2007 11:53 pm :
Hydro, what you did is amazing. Where did you thought of using the 2 cap's? The result is very new. I think even Meyer havent thought about that. The 2 cap's are very heavy, so the small capacitance of the WFC is not important for the resonance any more. Just a little bit.

I wonder how stable this will work. Small changes in the WFC should not effect the resonance in this setup.

- Hydrocars, Posted: Tue Aug 07, 2007 11:59 am :
There is a terrible error, the circuit will not work for you right now. I noticed when i hooked it up on the bread board the diode arrangement, i also wrote it down immediately. i used small diodes then.

i also hooked it up with the water fuel cell with larger diodes, worked fine!!!

wrote it down, somehow it was hooked differently than the way on the breadboard, "hardly noticeable".

Now, the reason it is working is because the diode is breaking down and reversing, i cant hardly explain it, i need a little help with it.

i do know it works, because when i moved a magnet around the coil when it was emitting light it did change the behaviour of the light. i know it was resonating because of this. and i also checked it with a dvm, and with my fingers.

each time the circuit was working, it was only because one of the diodes was broken, its very flusterating trying to figure out whats going on, and why it is working, i'm on it, if a broke down diode can make a circuit resonate then something is going on here, the diode is acting as a resistor but it's still doing something strange, i have yet to replicate it but i am looking into how to do it without a broken down diode.

- Hydrocars, Posted: Tue Aug 07, 2007 12:41 pm :
once again, i'm sorry but this seems to replicate what I was seeing with the broken diode, took me a while to figure this circuit out, but here is what a broken diode will get ya MAN!!

i still don't see how a broken diode can do this, but if you hook your stuff up the way i had it in the schematic, your diode will probley break down, so i wouldn't do it.

this circuit also explains the magnet effect i was getting. Hrm, i was still getting good results with this circuit on the water fuel cell?? hrmmm, i'm clueless if this sends straight DC to the water fuel cell or not?

i did seem to get wacky readings with it, what was it, something like 4 volts 12 amps? that would be good if it was pulsed dc, but that i don't know, so frusterated.

stupid.jpeg
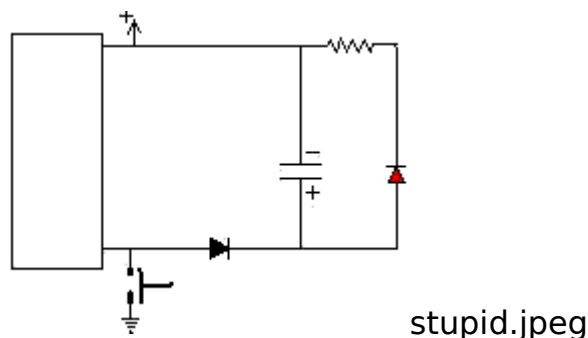
this circuit can not resonate, any circuit that has a diode of any kind between a coil, and an none bipolar power source can not resonate, i'm sorry guys but with a diode its not resonating, the only resonating is between the frequency generator, and the primary and secondary side of the coil.

i think we need high volts, NOT TENS OF THOUSANDS with amps behind it, Good

Amps, If you pulse it with that, i think it would be what everyone is looking for. Sorry but true! don't hate me

- stevie1001, Posted: Thu Sep 06, 2007 2:34 am Post subject: shocked!!!!!!!!!!!!!!!!!!!!!!!!!!!!! :
Today was my day of being shocked. All my hair is gone now... It's funny to unhook the fequency generator, power etc and still being electrocuted...by a single coil, diodes and a .22Uf capacitor.

The power is unbelievable. It almost feld like a 230V blow. Now trying to get that power in my testcell.

-- **Return to the top**

Post subject: Hydrogen and oxygen ionisation…, in Stanley Meyer's Voltage Intesifer Circuit (VIC) forum part :

- PULSED)ReverseH/Ofuelcell, Posted: Sat May 12, 2007 11:10 pm :
This may be one way the Water fuel cell breaks the covalent bonding of the water molecule. The two electrons covalently bonding the hydrogen to the oxygen are stripped of when the oxygen is ionised and looses four electrons, now because the oxygen atom needs another electron it takes it from the much weaker hydrogen atom, when it dose this the hydrogen looses its electron to the much stronger oxygen atom. The reason the oxygen is stronger then the hydrogen is because the hydrogen atom has only one proton whereas the oxygen atom has eight, so the oxygen has a stronger electrical charge. When the oxygen atom takes the hydrogen's electron it breaks the covalent bond (remember we are only doing this with voltage). The hydrogen electron is the thing that is holding the water molecule together, so when the oxygen atom takes the hydrogen atom's electron it is breaking the covalent bond. The oxygen normally gets it's electrons from amp flow, that would be the point where the high currant would flow, but because we are now restricting electron flow the oxygen atom takes the electrons from the hydrogen atom, this breaks the covalent bond.

Thanks, Sukhoi Company (JSC) - If the world should blow itself up, the last audible voice would be that of an expert saying it can't be done.

-- **Return to the top**

Post subject: Its Up to You Now!!! Can you do it????? :

- hydrocars, Posted: Tue Aug 07, 2007 11:31 pm :

No larger than **little over half amp**. This is about all the experimenting i'm doing right now, there is no need to look any futher, its figured out now.

2007-08-07-52073.jpg

- hydrocars, Posted: Wed Aug 08, 2007 2:33 am :
The schematic i made in the past was a working wreck, it was only working because it was screwed. now, enough about that deformed circuit, lets get on with the good stuff and put that in the past!

A few things you should know before you continue your water fuel cell adventure.

1. A coil of any kind in parallel or series with a ("none BI polar") capacitor seperated by a diode in any direction CAN NOT AND WILL NOT RESONATE!

2. A ("None BI Polar") Capacitor Can Not resonate with a inductor in any kind of Pulsed DC OR AC. **("Only bipolar ones can do this")!**

3. The Frequency Is COMPLETE BULLSHIT let me say that again, it is COMPLET BULLSHIT there is no Frequency, **Stanley did this to confuse you**. With Good meaning! you would have did the same.

4. The Patent "stanley meyers", which shows the 5 spikes seperated by a delay where the pulses start at a lower voltage, and workes its way up to the 5 Spike then comes to a delay was simply to confuse you!!! it's not true.

Faqs, There is a Pulse needed at a desired Frequency, but it's nothing like you think, its not what you think. i hardly refer to it as a frequency, its much slower ("has nothing to do with the resonate or water molecule".

The unite works off of COLD ELECTRICITY google that with inventors.
WOOOOOOOOOOOOHhhhhh

I can clearly see why stanley used a alternator now. His transformer that stated 200 wraps of 22 gauge wire with 600 turns of 36 awg wire was complete bull, it was used to throw you for a loop just like the frequency, stanley "is" a smart man, i admire him for that, and i respect him!

CHOKES : They're very very important, the wrong chokes will get really hot really fast, i just figured all this out, so you guys need to help me on them.

More to come if i don't get bashed, But remember, Forget the dave lawton circuit, its not needed, and is a complete wast of time if you're trying to use it with the wfc, drop it, it dont work. There is no frequency.

Think to yourself, ask yourself, back then if you was stanley meyers, would you

patent the complete truth?? would you not do as he did???

today is a differnt day, there is no patent, now its public and money is not an object, the truth shall come out now!

The construction of my results are ready for you to experience, what ya waiting on? you guys with me or not??

_____

When the Water is Orange, you know you're doing something Right! That just Dawned on me lol

- M4rk79, Posted: Wed Aug 08, 2007 7:21 am :
Great work! Yes, that`s water split by voltage potential - very small, white gasbubbles, highly implosive and energetic

I am not new here, been reading here quite a wile, but now i would like to share what i think about the VIC.

What hydrocars says is what i also think now, it`s so easy. I had been "blindet" also for a wile, but while reading the newest results here last week, it really hit me:-)

May be Stanley Meyer was forced to complicate it, because it's so easy and so wouldn't get his patent granted. Who knows...

Well for me this **works exactly like a ozon generator, only with water**. The high voltage potential creates a corona/ cold plasma field with almost no current and transmutes the oxygen in the air to ozone.

Remove the insolator between the plates or bring them to close together, the HV arcs over- currentflow. The corona potetialfield collapses instantly!

Same when using tapwater or water with minerals (conductive) with the VIC, then you get current electrolysis, which isn't that efficient and hot chokes...

You only need to **hit the self-resonance of the choke** (which all coils with airgapped ferrit-/metalcore should have), that's why **i would and will put all windings on the same core** (Step up & Charging choke)

At that selfresonance the choke will generate the strongest corona/cold plasma field/voltage potential in the water between the tubes and transmutate/split it into it's elements hydrogen and oxygen.

So i think Stan Meyer ment this coil selfresonance (Which typicaly lays in the audiofreq. range) and the simplest pulsing circuit should do the job!

May be there could be a visible blue-purpleish plasma glow between the tubes in a quite dark room.

So because **Currentflow will kill this plasmafield emidialy**, i only will use

noncoductive demineralised water for the VIC.

- hydrocars, Posted: Wed Aug 08, 2007 8:24 am :
This is not the circuit that made the video at youtube, nor ("ALL") the pictures on this thread.

This circuit is intended to Teach you, and allow yourself to gain an understanding of what is going on.

We're still in the baby stages, Take this and learn from it. We will all work on this together here in the forums!

the main goal is that everyone understands how and why it works, after you have reached that level then it would be great to go larger as i did manually as you will see how i did the video soon.

Here in this picture, you can see 1 Power inverter, 600 watts, one Transformer from radio shack, it is 120v AC to 25 volts AC Step Down, You will also see the 470uf **THE CAP MUST BE 200v no smaller**.

2 diodes rated at 1000 volts, and you will see CHOKES in tape i made, they should be bigger. after you experiment with the schematic you will **see what the chokes do**, and why you need them. Those of you without ammeter's you will need an ammeter that will read atleast 10 amps ac and dc, you need to get you one, if you don't have one we will do our best at describing whats going on, i know what its like not to have an ammeter, it sucks.

Later we should be dealing with reed relays, or gas or glass tube relays, not very fast but not slow, they are ideal and out perform todays electronics, they're very hard to come across, be on the lookout for these.

also we need to learn to make our on caps, i want cover that here right now, very dangerous! This is different, PLEASE BE CARUFULL

WARNING WARNING WARNING WARNING WARNING WARNING ; NO MORE TOUCHING THE TRANSFORMER OUTPUT ON ACCIDENT ANYMORE, YOU SHOULD KEEP ONE HAND IN YOUR POCKET WHEN WORKING AROUND THE TRANSFORMER, OR HAVE THE POWER OFF.

MyNewPlayCircuit.jpg

Hydro, that's good to hear that you are getting results! Could you give a rough circuit that you used in your water fuel cell, The circuit that made all that hydrogen with ½ an amp? Looking forward to the video!

Now you say that the frequency has no role to play here, but for an LC circuits to {resonate} you need a frequency, now I know that this is true because of my Tesla coil. For me to get that high voltage arch's I needed to tune the frequency generator and the spark gap (witch made the frequency even higher). It seem that you have found something new,

On the other hand, if you are saying that there is no "fixed" frequency, this opens up a whole new can o' whoop ass. If that [is] what you meant then you are also right (you win either way), there is no fixed resonating frequency, it is all dependant on the chokes and capacitors values. You also can find the resonating frequency by doing some easy (hard) math's, I think I will pass and do some frequency tuning.

If you look at what crux has done then you can see how the frequency is indeed needed; now I am going to try two tests, the LC circuit test, this needs the step charge effect and high voltage resonating pulses with the blocking diode and I'm going to try and replicate what you have done.

That is why the original circuit has the blocking diode [before] the choke and the capacitor and not in-between them, this allows for resonance between the inductor and capacitor, thus proving more that a frequency is needed, (I am not saying you are wrong, it is just that you have found something new! That's great!).

There is no fixed resonant frequency that depends on so many factors. You need the frequency generator though for an LC circuit.

My [12] v battery is arriving tomorrow and then I can get started with my LC tests! I'll let you all know how that goes

With regards to high voltage, I love relating the Tesla coil to the water fuel cell. I think there is no arch in the water between the positive and negative electrodes that would be shorting and would affect the water molecule. But this process applies to the browns gas generator, the one with carbon rods and the under water arc.

Rather the high voltage affects the water molecules because of the high voltage field. In a Tesla coil there are arches and sparks but there are very high voltage fields to. If you can get the voltage field under water in the plates, and put the plates as close together without arching, you will get a pretty intense voltage field. No amps would be consumed just like a magnetic field.

The way to generate a high voltage field would be through LC resonance, this means high voltage so be careful. The resonance builds up the voltage field in the water capacitor, and, just before a dielectric failure (arching) occurs the high voltage pulses stop, only to start again and so the process goes, no amp flow no electricity being used. Sure some amperage will be used, nothing is perfect, but if we can get it as low

as possible low wattage will be used.

100000v x 0.001 amps = 11 watts, easily doable by the alternator.

- hydrocars, Posted: Sat Aug 11, 2007 12:17 am :
-> sbeehre wrote: ok i get that but could you also just hook up a plug from your wall outlet to the transformer? thats if you didnt have an inverter.

yes you could, but it is important that the primary side is fused with about a 2 amp fuse. the inverter is less dangerous.

- hydrocars, Posted: Sun Aug 12, 2007 5:43 pm :
-> CoronaFire wrote: In your demo circuit, you have the high voltage (120V?) from the inverter going into the transformer (into the 25V side?) so then the output from the transformer (the 120V side?) goes into the diodes to the cap. That would mean you've got 576V DC at the cap, which you pulse (with the switch) through the chokes and across the wfc. That would suggest to me that the at least 200V rating you said for the cap is no where near high enough to safely run, unless the transformer is around the other way and you only have 25V. Is this a high voltage setup or a low voltage setup?

yeah, the transformer is hooked up as it is built for. 120v to 25v, 25v to the water fuel cell.

- hydrocars, Posted: Sun Aug 12, 2007 5:49 pm :
-> BeginnerForever wrote: I also have questions for Hydrocars. In your diagram, what are the two black rectangles? and is the circle the wfc? what is the dimensions of your SS tubings?(inner and outer tubings), what gauge, diameter, length, spacing between two tubes)

the black things are diodes. yes the circle is the wfc unless it's drawn like a cap symbol. 1 inch tube od, inside tube 3/4 od, gap 1/16th.

I am having issues, i'm hoping that the caps i ordered will work for this but i am having my doubts after watching Xogens Video at youtube, they seem to have it figured out, and they mentioned that the proper frequency was needed, where i was leaning toward cold electricity because i have had no luck with a frequency, and also there is a video at youtube and they guy that stands up sounds just like stanley meyers, they said on that video the frequency was just to confuse you also, i'm so confused right now and flusterated.

you dont know what to believe because Xogen isn't gonna want you to get it working, it would be a money thing for them, and you dont know what to believe when you watch them kinda video's, they seem to put in our heads what they want us to think, they could be leading us in the right direction, or they could just be throwing us a loop of lies, who knows

- hydrocars, Posted: Mon Aug 13, 2007 7:45 am :
oh, im sorry guy's, the schematic i was using is found on page 2 of this tread, it is named Pulser.jpeg

i'm sorry i didn't measure the liters output, i didn't feel it was time to do that because the circuit dont run long enough before it overheats.

i think it is more important to get a good working circuit first, but thats what i used so knock yourself out, i didn't use chokes in the video.

- hydrocars, Posted: Tue Aug 14, 2007 12:07 am :
("i did not want to post this") but here it is pulsed.
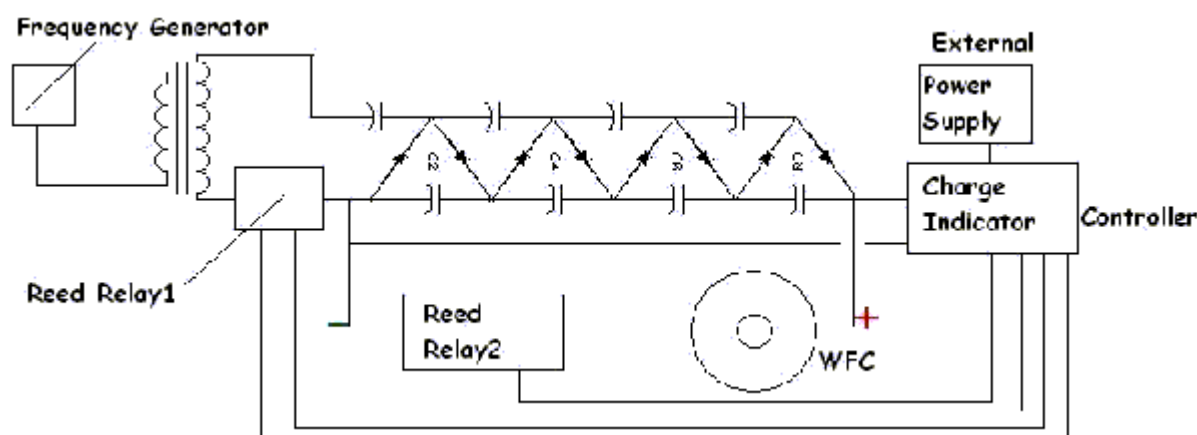
My Ideal of The workings at this time, "Untested". No Parts Has Been Labeled, I am not the One for the Brains for it. I try my Circuits At my own Risk,. This circuit Quadruples The Voltage on the secondary side of Transformer, The Transformer is backwords in this Demo Schematic   The output is DC

WARNING   WARNING   WARNING   WARNING   WARNING   WARNING
This circuit below will not shock you, it will littlerly Blow your arms off your body, it is nothing to play with if you dont know electronics, so if you dont know what you're doing, this circuit is not the one to learn on. !!!!
DONT SAY I DIDN'T WARN YOU, I AM NOT RESPONSIBLE FOR YOUR LACK OF KNOWLEDGE IN ELECTRONICS AND WILL NOT TAKE THE BLAME! YOUR FIRST MISTAKE IS YOUR LAST MISTAKE!!!!!!!!!!!!!!!!!!!

Demo.jpeg

- PULSED)ReverseH/Ofuelcell, Posted: Sat Aug 18, 2007 9:34 pm :
Those capacitors store up the high voltage and then once one discharges they all go and deliver a HIGH voltage discharge to the water electrode, thus high voltage. I JUST got what you are talking about like five seconds ago; it all just came back to me! I will post much more on this soon!

- Hydrocars, Posted: Mon Aug 20, 2007 5:33 pm :
i'm reading on how to dishcarge the capacitors to the wfc, i think cold energy would do it, allthough i'm not really sure, just have to try and see what the output is, right now i'm trying to figure out how to charge the big caps at a decent speed, its not looking good.

- PULSED)ReverseH/Ofuelcell, Posted: Mon Aug 20, 2007 9:10 pm :
Hey Hydro! yeah I thought to my self when I saw those pictures of the capacitors, "how the heck is he gonna charge'em all" In series!

I am going to try my old TV capacitors, and by the way, your right, I don't need to spend all my money on ferrite core and wire, just pop down to the dump and get yourself an old TV whip out its innards flip it on the top side and spin it inside out!

- PULSED)ReverseH/Ofuelcell, Posted: Tue Aug 21, 2007 8:15 pm :
Hey Hydro, I just tested my ferrite rods and they are magnetic, but the loose there magnetic fields very quickly. They are ferrite cores those doughnut shaped things, they are ferrite. Good cores to use.

- PULSED)ReverseH/Ofuelcell, Posted: Tue Aug 28, 2007 10:04 pm :
Hydro's tests work on capacitive discharge; you put in high voltage to the high voltage capacitors by means of a transformer, these high voltage pulses charge the first capacitor witch, when discharged, build up in the next capacitor and so on, until the last capacitor is discharged into the main capacitor, the water capacitor. It is this high voltage "potential" is what breaks the water molecular bonds. Not amperage, but high voltage fields.

This is not even Stan Meyer's process! Stan's process needs [two] amps and [five] volts, that's 10 watts of electrical input!

It then turns this into tens of thousands of volts by electrical "resonance", charging the water capacitor in series with a choke at a resonant frequency, multiplying the voltage.

This works the same way as a Tesla coil, using low input and using electrical resonance to generate very high voltage.

I am going to ask Muzza to put a forum section for water fuel cell skepticism, or doubts.

If you have any questions, feel free to ask, I am not trying to be mean, cutting, or a know it all, if you stay like that you are just going to get worse reception here, lighten up a littlie, were here to help [you], not put you down!

You know what "non directional pulses" means? That the frequency is not alternating, but direct currant, witch means that the water will stay charged and will not drain.

You also say that Stan Meyer did not give clear instructions, you know why? It is NEW you can't understand is overnight, it has taken us a long time to get an understanding of this technology, but, thanks to the input of many helpful and up building people we can and are replicating it.

- Ron Knight, Posted: Wed Aug 29, 2007 3:37 am :
The energy that Stan's technology is using is Teslian in origin. Below are some web page addresses that will help you to better understand exactly how Stan was doing it and other researchers that use the same technology. The Bedini information is for educational purposes; anybody found to be commercially profiting on the patented technology will be prosecuted. Trust me when I say a license is not that expensive as opposed to being sued.

- Stanley Meyer - Water Fuel Injector
http://www.youtube.com/watch?v=D7BAODqqcpQ

- Stanley Meyer - Stainless Steel 304
http://www.youtube.com/watch?v=RRXlm5AO9mY

- Stanley Meyer - Electron Extraction Circuit
http://www.youtube.com/watch?v=Clafqu0Xw6E

- Practical Guide to Free-Energy Devices http://www.panaceauniversity.org/

- Water Fuel Cell Technical Brief by Stanley Meyer
http://www.panaceauniversity.org/Stan_Meyer_Full_Data.pdf

Below are Teslian related resources to enhance your understanding.

- Interview with Lt. Col. Thomas E. Bearden (ret.)
http://www.cheniere.org/misc/interview1991.htm

- Bedini Technology http://www.icehouse.net/john1/index11.html

This group here is a good start to understanding radiant energy. You can build a
working device that will positively enhance your understanding to RE and you might
even want to explore other possibilities.

- Bedini Monopole 3 group
This egroup is for people wishing to build and test John Bedini's monopole energizers
as directed. http://tech.groups.yahoo.com/group/Bedini_Monopole3/

- John Bedini Monopole Mechanical Oscillator Simplified School Girl (SSG)
Presentation http://rpmgt.org/SSG.html

- **Hydrocars, Posted: Sat Sep 01, 2007 2:36 pm :**
I found this on like the second page of this thread, if you reed threw it you will be able
to tell what i was doing.

this was my schematic i drew up that everyone seems to have overlook.
http://waterfuelcell.org/phpBB2/files/pulser_129.jpeg

--- Return to the top

Post subject: My Project with Video :

- **Hydrocars**, i think i hot these in the right order

- http://www.youtube.com/watch?v=56Lcyp8X75g
- http://www.youtube.com/watch?v=Tf7uaPylkgo
- http://www.youtube.com/watch?v=tBAk6xlcOYg

youtube is doing a sorry job, this was over 8 hours ago i uploaded this.

- Hydrocars, Sun Sep 09, 2007 3:16 am :
it's showing hydrogen production at .50 amps 1 amp and 2 amps. the circuit is show in the video to. also there is a single cell that i was experementing on..

Post subject: Stanley Meyers Coils & Specs :
http://waterfuelcell.org/phpBB2/viewtopic.php?t=437&start=0&postdays=0&postorder=asc&highlight=

- Hydrocars, Posted: Tue Jul 10, 2007 12:29 am:

In the Example of a fuel cell circuit of FIG. 1, a water capacitor is included. The step-up coil is formed on a conventional toroidal core formed of a compressed ferromagnetic powered material that will not itself become permanently magnetized, such as the trademarked "Ferramic 06# "Permag" powder as described in Siemens Ferrites Catalog, CG-2000-002-121, (Cleveland, Ohio) No. F626-1205". The core is 1.50 inch in diameter and 0.25 inch in thickness. A primary coil of 200 turns of 24 gauge copper wire is provided and coil of 600 turns of 36 gauge wire comprises the secondary winding.

In the circuit of FIG 1, the diode is a 1N1198 diode which acts as a blocking diode and an electric switch that allows voltage flow in one direction only. Thus, the capacitor is never subjected to a pulse of reverse polarity.

The primary coil of the toroid is subject to a 50% duty cycle pulse. The toroidal pulsing coil provides a voltage step-up from the pulse generator in excess of five times, although the relative amount of step-up is determined by preselected criteria for a particular application. As the stepped-up pulse enters first inductor (formed from 100 turns of 24 gauge wire 1 inch in diameter), an electromagnetic field is formed around the inductor, voltage is switched off when the pulse ends, and the field collapses and produces another pulse of the same polarity i.e., another positive pulse is formed where the 50% duty cycle was terminated. Thus, a double pulse frequency is produced; however, in pulse train of unipolar pulses, there is a brief time when pulses are not present.

By being so subjected to electrical pulses in the circuit of FIG. 1, water confined in the volume that includes the capacitor plates takes on an electrical charge that is increased by a step charging phenomenon occurring in the water capacitor. Voltage continually increases (to about 1000 volts and more) and the water molecules starts to elongate.

The pulse train is then switched off; the voltage across the water capacitor drops to the amount of the charge that the water molecules have taken on, i.e., voltage is

maintained across the charged capacitor. The pulse train is the reapplied

from : rexresearch.com/meyerhy/4936961.htm

TABLE 1 ; Process Steps:

The sequence of the relative state of the water molecule and/or
hydrogen/oxygen/other atoms:

A. (ambient state) random
B. Alignment of polar fields
C. Polarization of molecule
D. Molecular elongation
E. Atom liberation by breakdown of covalent bond
F. Release of gases

In the process, the point of optimum gas release is reached at a circuit resonance.
Water in the fuel cell is subjected to a pulsating, polar electric field produced by the
electrical circuit whereby the water molecules are distended by reason of their
subjection to electrical polar forces of the capacitor plates.

The polar pulsating frequency applied is such that the pulsating electric field induces
a resonance in the molecule. A cascade effect occurs and the overall energy level of
specific water molecules is increased in cascading, incremental steps.

The hydrogen and oxygen atomic gases, and other gas components formerly
entrapped as dissolved gases in water, are released when the resonant energy exceeds
the covalent bonding force of the water molecule. A preferred construction material
for the capacitor plates is stainless steel T-304 which is non-chemical reactive with
water, hydrogen, or oxygen.

An electrically conductive material which is inert in the fluid environment is a
desirable material of construction for the electrical field plates of the "water
capacitor" employed in the circuit.

Once triggered, the gas output is controllable by the attenuation of operational
parameters. Thus, once the frequency of resonance is identified, by varying the
applied pulse voltage to the water fuel cell assembly, gas output is varied.

By varying the pulse shape and/or amplitude or pulse train sequence of the initial
pulsing wave source, final gas output is varied. Attenuation of the voltage field
frequency in the form of OFF and ON pulses likewise affects output.

The overall apparatus thus includes an electrical circuit in which a water capacitor
having a known dielectric property is an element. The fuel gases are obtained from
the water by the disassociation of the water molecule. The water molecules are split
into component atomic elements (hydrogen and oxygen gases) by a voltage
stimulation process called the electrical polarization process which also releases
dissolved gases entrapped in the water.

From the outline of physical phenomena associated with the process described in Table 1, the theoretical basis of the invention considers the respective states of molecules and gases and ions derived from liquid water. Before voltage stimulation, water molecules are randomly dispersed throughout water in a container.

When a unipolar voltage pulse train such as shown in FIGS. 3B through 3F is applied to positive and negative capacitor plates, an increasing voltage potential is induced in the molecules in a linear, step like charging effect.

The electrical field of the particles within a volume of water including the electrical field plates increases from a low energy state to a high energy state successively is a step manner following each pulse-train as illustrated figuratively in the depictions of FIG. 3A through 3F.

The increasing voltage potential is always positive in direct relationship to negative ground potential during each pulse. The voltage polarity on the plates which create the voltage fields remains constant although the voltage charge increases. Positive and negative voltage "zones" are thus formed simultaneously in the electrical field of the capacitor plates.

In the first stage of the process described in Table 1, because the water molecule naturally exhibits opposite electrical fields in a relatively polar configuration (the two hydrogen atoms are positively electrically charged relative to the negative electrically charged oxygen atom), the voltage pulse causes initially randomly oriented water molecules in the liquid state to spin and orient themselves with reference to positive and negative poles of the voltage fields applied.

The positive electrically charged hydrogen atoms of said water molecule are attracted to a negative voltage field; while, at the same time, the negative electrically charged oxygen atoms of the same water molecule are attracted to a positive voltage field.

Even a slight potential difference applied to inert, conductive plates of a containment chamber which forms a capacitor will initiate polar atomic orientation within the water molecule based on polarity differences.

When the potential difference applied causes the orientated water molecules to align themselves between the conductive plates, pulsing causes the voltage field intensity to be increased in accordance with FIG. 3B. As further molecule alignment occurs, molecular movement is hindered.

Because the positively charged hydrogen atoms of said aligned molecules are attracted in a direction opposite to the negatively charged oxygen atoms, a polar charge alignment or distribution occurs within the molecules between said voltage zones, as shown in FIG. 3B. And as the energy level of the atoms subjected to resonant pulsing increases, the stationary water molecules become elongated as shown in FIGS. 3C and 3D. Electrically charged nuclei and electrons are attracted toward opposite electrically charged equilibrium of the water molecule.

As the water molecule is further exposed to an increasing potential difference resulting from the step charging of the capacitor, the electrical force of attraction of

the atoms within the molecule to the capacitor plates of the chamber also increase in strength. As a result, the covalent bonding between which form the molecule is weakened --- and ultimately terminated. The negatively charged electron is attracted toward the positively charged hydrogen atoms, while at the same time, the negatively charged oxygen atoms repel electrons.

In a more specific explanation of the "sub-atomic" action the occurs in the water fuel cell, it is known that natural water is a liquid which has a dielectric constant of 78.54 at 20 degrees C. and 1 atm pressure. [Handbook of Chemistry & Physics, 68th ed., CRC Press(Boca Raton, Florida (1987-8), Section E-50. H20(water)].

When a volume of water is isolated and electrically conductive plates, that are chemically inert in water and are separated by a distance, are immersed in water, a capacitor is formed, having a capacitance determined by the surface area of the plates, the distance of their separation and the dielectric constant of water.

When water molecules are exposed to voltage at a restricted current, water takes on an electrical charge. By the laws of electrical attraction, molecules align according to positive and negative polarity fields of the molecule and the alignment field. The plates of the capacitor constitute such as alignment field when a voltage is applied.

When a charge is applied to a capacitor, the electrical charge of the capacitor equals the applied voltage charge; in a water capacitor, the dielectric property of water resists the flow of amps in the circuit, and the water molecule itself, because it has polarity fields formed by the relationship of hydrogen and oxygen in the covalent bond, and intrinsic dielectric property, becomes part of the electrical circuit, analogous to a "microcapacitor" within the capacitor defined by the plates.

In the Example of a fuel cell circuit of FIG. 1, a water capacitor is included. The step-up coil is formed on a conventional toroidal core formed of a compressed ferromagnetic powered material that will not itself become permanently magnetized, such as the trademarked "Ferramic 06# "Permag" powder as described in Siemens Ferrites Catalog, CG-2000-002-121, (Cleveland, Ohio) No. F626-1205". The core is 1.50 inch in diameter and 0.25 inch in thickness. A primary coil of 200 turns of 24 gauge copper wire is provided and coil of 600 turns of 36 gauge wire comprises the secondary winding.

In the circuit of FIG 1, the diode is a 1N1198 diode which acts as a blocking diode and an electric switch that allows voltage flow in one direction only. Thus, the capacitor is never subjected to a pulse of reverse polarity.

The primary coil of the toroid is subject to a 50% duty cycle pulse. The toroidal pulsing coil provides a voltage step-up from the pulse generator in excess of five times, although the relative amount of step-up is determined by preselected criteria for a particular application. As the stepped-up pulse enters first inductor (formed from 100 turns of 24 gauge wire 1 inch in diameter), an electromagnetic field is formed around the inductor, voltage is switched off when the pulse ends, and the field collapses and produces another pulse of the same polarity i.e., another positive pulse is formed where the 50% duty cycle was terminated. Thus, a double pulse frequency is produced; however, in pulse train of unipolar pulses, there is a brief time when

pulses are not present.

By being so subjected to electrical pulses in the circuit of FIG. 1, water confined in the volume that includes the capacitor plates takes on an electrical charge that is increased by a step charging phenomenon occurring in the water capacitor. Voltage continually increases (to about 1000 volts and more) and the water molecules starts to elongate.

The pulse train is then switched off; the voltage across the water capacitor drops to the amount of the charge that the water molecules have taken on, i.e., voltage is maintained across the charged capacitor. The pulse train is the reapplied.

Because a voltage potential applied to a capacitor can perform work, the higher the voltage the higher the voltage potential, the more work is performed by a given capacitor. In an optimum capacitor that is wholly non-conductive, zero (0) current flow will occur across the capacitor.

Thus, in view of an idealized capacitor circuit, the object of the water capacitor circuit is to prevent electron flow through the circuit, i.e. such as occurs by electron flow or leakage through a resistive element that produces heat.

Electrical leakage in the water will occur, however, because of some residual conductivity and impurities or ions that may be otherwise present in the water. Thus, the water capacitor is preferably chemically inert. An electrolyte is not added to the water.

In the isolated water bath, the water molecule takes on charge, and the charge increases. The object of the process is to switch off the covalent bonding of the water molecule and interrupt the subatomic force, i.e. the electrical force or electromagnetic force, that binds the hydrogen and oxygen atoms to form a molecule so that the hydrogen and oxygen separate.

Because an electron will only occupy a certain electron shell (shells are well known) the voltage applied to the capacitor affects the electrical forces inherent in the covalent bond. As a result of the charge applied by the plates, the applied force becomes greater than the force of the covalent bonds between the atom of the water molecule; and the water molecule becomes elongated. When this happens, the time share ratio of the electron shells is modified.

In the process, electrons are extracted from the water bath; electrons are not consumed nor are electrons introduced into the water bath by the circuit as electrons are conventionally introduced in as electrolysis process. There may nevertheless occur a leakage current through the water.

Those hydrogen atoms missing electrons become neutralized; atoms are liberated from the water. The charged atoms and electrons are attracted to the opposite polarity voltage zones created between the capacitor plates. The electrons formerly shared by atoms in the water covalent bond are reallocated such that neutral elemental gases are liberated.

In the process, the electrical resonance may be reached at all levels of voltage potential. The overall circuit is characterized as a "resonant charging choke" circuit which is an inductor in series with a capacitor that produces a resonant circuit. [SAMS Modern Dictionary of Electronics, Rudolf Garff, copyright 1984, Howard W. Sams & Co. (Indianapolis, Ind.), page 859.]

Such a resonant charging choke is on each side of the capacitor. In the circuit, the diode acts as a switch that allows the magnetic field produced in the inductor to collapse, thereby doubling the pulse frequency and preventing the capacitor from discharging. In this manner a continuous voltage is produced across the capacitor plates in the water bath; and the capacitor does not discharge. The water molecules are thus subjected to a continuously charged field until the breakdown of the covalent bond occurs.

As noted initially, the capacitance depends on the dielectric properties of the water and the size and separation of the conductive elements forming the water capacitor.

- **EXAMPLE 1** : In an example of the circuit of FIG. 1 (in which other circuit element specifications are provided above), two concentric cylinders 4 inches long formed the water capacitor of the fuel cell in the volume of water. The outside cylinder was 0.75 inch in outside diameter; the inner cylinder was 0.5 inch in outside diameter.

Spacing from the outside of the inner cylinder to the inner surface of the outside cylinder was 0.0625 inch. Resonance in the circuit was achieved at a 26 volt applied pulse to the primary coil of the toroid at 0 KHz, and the water molecules disassociated into elemental hydrogen and oxygen and the gas released from the fuel cell comprised a mixture of hydrogen, oxygen from the water molecule, and gases formerly dissolved in the water such as the atmospheric gases or oxygen, nitrogen, and argon.

In achieving resonance in any circuit, as the pulse frequency is adjusted, the flow of amps is minimized and the voltage is maximized to a peak. Calculation of the resonance frequency of an overall circuit is determined by known means; different cavities have a different frequency of resonance dependant on parameters of the water dielectric, plate size, configuration and distance, circuit inductors, and the like. Control of the production of fuel gas is determined by variation of the period of time between a train of pulses, pulse amplitude and capacitor plate size and configuration, with corresponding value adjustments to other circuit components.

The wiper arm on the second conductor tunes the circuit and accommodates to contaminants in water so that the charge is always applied to the capacitor. The voltage applied determines the rate of breakdown of the molecule into its atomic components. As water in the cell is consumed, it is replaced by any appropriate means or control system.

Variations of the process and apparatus may be evident to those skilled in the art. What is claimed is: [Claims not included here]

Keelynet/Vangard Notes :

1N1198 Diode is also a NTE 5995 or a ECG 5994. It is a 40A 600 PIV Diode (the 40A is over kill and may not be needed).

Stainless Steel "T304" is a type of weldable Stainless, but other types should work the same. "T304" is just the more common type of Stainless tubing available.

The outer tube figures out to be 3/4" 16 gauge (.060 "wall") tube (a common size) cut to 4 inch length.

The inner tube figures out to be 1/2" 18 gauge (.049 "wall", this is a common size for this tube, but the actual gauge cannot be figured from this patent documentation, but this size should work) cut to 4 inch length.

You should also attach the two leads to the Stainless, using Stainless solid rod (1/6 dia would do) and USE LEAD FREE SOLDER ! (you may want the purified water that is returned to drink some day).

You also need to figure out a way to keep the two tubes separated from each other. This could be done with small pieces of plastic. They cannot block the flow of water into/out of the tubes.

It was not indicated if the inner tube is full of water or not. The guess here is that it is full of water, and this doesn't effect the device at all.

The Patent doesn't say but I would think that insulating the leads with some type of tubing up to the tubes would be electrically correct (and probably wouldn't hurt).

The pulse frequency was not printed, it is estimated from the size of the coils and transformer that the frequency doesn't exceed 50 Mhz. Don't depend on this being fact, it's just a educated guess.

The circuit to do this is not shown, just empty boxes. It's time to get out your SCOPE and try things! Don't forget to share your results with others ! GREED is why this type of thing never gets out into the world to do some GOOD. If you want to make some money, make something PRACTICAL that WORKS and that PEOPLE can use in their every day lives, then sell it! Holding onto information like this only hurts ALL OF US !!

Post subject: Pulsed, Please help :

- **Hydrocars, Posted: Wed Sep 12, 2007 7:42 pm**:
Pulsed, i would like for you to run a test for me, i can't do it dew to not having a ferrite bar, how many wraps does your ferrite have?

i would like for you to run this test for me, use both chokes and pulse them as usual, make sure you have a diode on the chokes like in the picture, dont worry about

rewraping your chokes, just run the test and get back to me.

Please take note, you can hook the choke up backwards, it is important to get the polarity of the chokes right, if i am not mistaken one choke hookes backwards, it dont matter witch choke you choose to hook backwards, as long as one of them is.

i assume you have installed a diode on your lawton circuit? if so please test it to make sure it is not defective, that diode is very important in this replication, if it is blowed remove it, just hook your chokes up like in the picture.

if it isn't to much trouble, try different wraps on the chokes, 22 to 24 gauge is good. i'm thinking 100 wraps is the best, i have not tried 200 wraps, i have not tried 30 or 50 wraps, i would like to hear your comment regardless how many wraps you are using.

when you do run this pulse test on the chokes, please use the capacitor on the second lawton circuit labeled 103K, do not use the primary timer circuit. check your output at .50 amps, and never reverse your leads, keep positive positive and negative negative, if you reverse them you will see bubbles and not white trails.
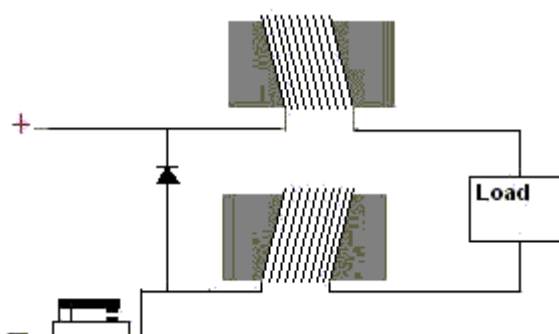
Figure3.jpeg

- Hydrocars, Posted: Thu Sep 13, 2007 4:28 pm :
i've looked at my cell so much i really cant tell if i'm getting more gas or not. i'm so use to my output that if i was producing more i wouldn't know. i remember when i first setup my chokes i was like wow, i can notice when i unhook them the white is less. it is good for others to test this and post there comments. the more contributers the best, but just whenever.

my goal now is to better the chokes. i'm looking for a longer free cycle pulse, thanks to the source of my oscilloscope i can take this to the next level!

-- Return to the top

Post subject: WFC Videos & Pictures, page 3
http://waterfuelcell.org/phpBB2/viewtopic.php?t=432&start=30&postdays=0&postorder=asc&highlight= :

- PULSED)ReverseH/Ofuelcell, Posted: Thu Jul 26, 2007 12:14 am :
Hey everyone, I am getting the step-charge effect!
This whole thing i.e. Chokes, Water capacitor, frequency generator etc, work with the

same principal as the Tesla coil, only not as big, and the capacitor on the top of the coil in the video is replaced with water electrodes. Also there is not such a high amount of voltage that is arches. The high voltage in the teals coil is generated by the resonant frequency being played (witch explains the frequency generator).

http://www.youtube.com/watch?v=FY-AS13fl30

Don't! I repeat DON'T kill your selves, with hydrogen explosions or high voltage shocks! We need your help, read about safety, use rubber gloves and bubblers! Safety comes before running a car on water. I'm not joking, I (you) have to take safety very seriously, I've had bad accidents and don't want any more, I have to quit launching H rockets of my patio 1; for my safety 2: for the wildlife's safety. Please take all precaution.

More things arriving today, ill keep you all posted, later, Pulsed.

Cars running with pure water! Michel's project status (Sept 05) from 'Michel WFC Report_Sept05 .pdf' (34 Ko) at http://my.opera.com/h2earth/blog/cybrarium

Extracts:
We believe in the S. Meyer's concept, described in the patent 4 936 961, based on the break of the covalent bonds between Hydrogen and Oxygen in the water molecule, when it's stressed by a high pulsed electrical field, in order to produce hydrogen and oxygen gas on demand in a car running with water.

We have been studied the subject for 2 years by reading lot of documents on physics, chemistry and electronics, and have also done lot of basic tests to understand the project
We followed the discussions on lot of Forums (watercar, icube, OUpower …)

2. Our water fuel cell: - Parallel plates in stainless steel T304 material (70x100 mm) - Cylindrical plates in stainless steel T304 material (dia 14/21mm, L=150 mm)
Gap is approx 1.5 mm ; Water: standard low cost distilled water and very pure water from chemical lab

Water fuel cell qualification (electrodes in water): Impedance of WFC (resistive, capacitive and inductive parts)
=> **Impedance is mainly a pure resistance, independent of the dc signal frequency**.

Main conclusion of the tests: The schematics and process, as described in the patent, cannot work, because the step charging effect is not possible with a WFC as described by S. Meyer.

The water fuel cell (like in the patent) is not playing as a capacitor, but as a pure resistor, even with very pure water.

We think that the WFC must be a true capacitor in order to make this patent work. We are currently focusing on that point.

7. Our key points to reach :
- No dc current in water
- No temperature increase
- High electrical field must be applied between the 2 electrodes to stress the water molecule.
- Electrical resonance is only possible with inductive part of the charging choke, and the pure capacitive part of the WFC
- In that case, the step charging effect will be possible.

6. Key points of the patent 4 936 961: In our point of view:
- The step charging effect is possible with a real capacitor
- We believe in the global process and description
- The energy we get globally is coming from the ZPE (vacuum energy)
- We have checked that the dissociation process of the water molecule doesn't need any electron coming from the negative electrode (or vice versa to get an electron from the bath to the positive electrode)

5. Open points that are still unclear:
Driving signal:
- What is the minimum value of the voltage to start the fracturing process in water: 1000V ? more ?
- Electrical resonance between L (charging choke) and C of the WFC: impossible because WFC is a mainly resistor in the range 100 Hz to 100 KHz (pulsed DC)

Restriction flow current circuit: With any added component to restrict the current flow, the applied voltage on the WFC's "capacitor" will decrease, and the electrical field E in the cell will also decrease !

Cars running with pure water! Michel's project status (January 06) from 'Michel WFC Report_Jan06.pdf' (2 Mo) at
http://my.opera.com/h2earth/blog/cybrarium

Our main conclusion for the moment: the process, as described in the patent ... 961 doesn't work! Most information in the patent and in the notes is separately true and seems coherent, but globally, some information seems missing, or hidden !
We understood through the video, that Meyer would have protected his invention. We have to investigate with patience to find again his secret.

One major point in our understanding of the patent is that the WFC is not a capacitor as explained in the patent. The WFC is in fact a pure resistor, very constant for any frequency and wave form. The value depends on the size of the electrodes, the distance, and the type of water.
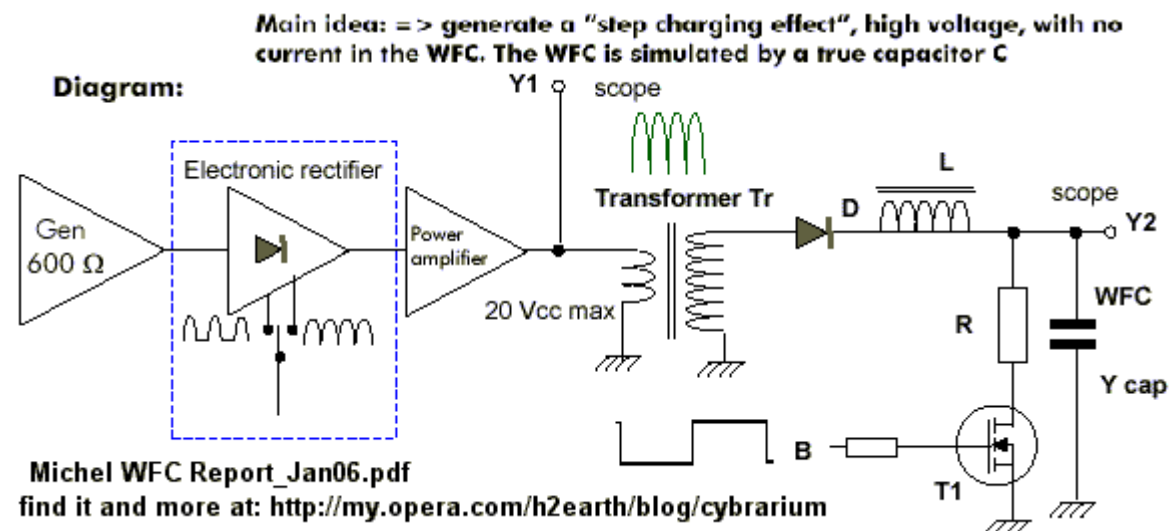
Consequences:
- The electrical resonance between WFC and resonant charging choke has no meaning

- The current leakage in the water is very high
- The step charging effect seems impossible.
In the next pages, you will find a sum up of the most important experiences we did, with diagrams, explanatio, pros and cons, and conclusion. Then you will see how we are coming back to the original patent as described by Meyer.
Before reading this document, please note that we have not yet produced any H2/O2 bubbles using the explained process of Meyer. All conditions are not yet finalized and completed to start the fracturing process.

Main idea: => generate a "step charging effect", high voltage, with no current in the WFC. The WFC is simulated by a true capacitor C

Michel WFC Report_Jan06.pdf
find it and more at: http://my.opera.com/h2earth/blog/cybrarium

Circuit description:
- Sine wave generator: output 10Vcc / 600 Ohms, frequency adjustable (used range 1 to 40 Khz)
- Electronic rectifier to have a half sine wave (home made)
- Audio Power Amplifier (HiFi or similar)
- Tranformer Tr / different versions have been tested
- Diode D: 800 V, rated for switching power supply (high frequency)
- Inductor L: the resonant charging choke: different type, from 0.1 mH to 5 mH, with or without ferrite core; the value changes depending of the position of the ferrite core inside the charging choke.
- WFC: replaced by a true capacitor (Y type, used in the main filter in switching power supply; rated 400V, can absorb 2 KV

Results: Input of the transformer 0 to 20Vc max ; Output of the transformer: 0 to 600Vc max

Caution: depending of the signal frequency, and core type, signal distortion could appear.

Without discharging circuit, the voltage on the WFC (=capacitor) became constant (DC), like a classical power supply!
Need of a discharging circuit: Resistor R=1 Kohms, carbon type, 3W ; Transistor T1: Mos typw or Hex Fet, rated 800V, 4A.

Principle: When the capacitor is charged, after some pulses, the transistor T1 is driven

'on' to discharge the capacitor with a 1 Kohm resistor, see next page.

Different transformers have been tested:
- Power supply transformers 50/60 Hz
- Switching power supply from an old PC or other electronic devices
- Fly back transformer for line deflection unit in TV
- Home made transformers

Objective: Our need is to define and to find the right transformer to get a 1,500 V pulsing signal; Ratio ot 50, with 30V signal input should comply.

Sum up the tests and results:
1 - Power supply transformers 50/60 Hz: Prim 220 Vac, sec 6 Vc, reverse connected, ratio 35 ; The bandwidth is limited: the useful frequency of the driving signal is from 50Hz to 1 or 2 Khz max, due to the metal core itself and high inductance.

2 - **Switching power supply from old PC or other electronic devices**: Since the core is in ferrite material, the frequency could reach 50 Khz, or more, depending of the core type and the number of turns involved in the primary and secondary windings. The ratio between Primary and Secondary is 15 to 30 max.

3 - **Fly back transformer for line deflection unit in TV or PC monitor**: Typical frequency 15 to 90 Khz, typical voltage on the primary: 200 to 400 V, typical voltage on the VHV 30 KV (colour TV), ratio is approx. 75 to 150 max. High voltage diodes are built in the transformer, unfortunately, the gauge of the wire is not adapted for high current (must be less then 0.5 mA!). It could be used only in procss working with insulated electrodes and low current in the WFC.

Conclusion: There is no ideal transformer; it depends on the need and associated circuits and process.

(MDG nov07: It seems that Michel and al. are not aware of the concept of charging the capacitor WFC with high voltage (in the tens of thousands volts) Radiant Pulses. And to look for the rupture level of the water dielectric layer. Off course the diagram in Meyer's patent seems to miss something to achieve this objectives; how can a transformer with ratio 3 (200 turns primary and 600 turns on secondary), bring tens of thousands of volts from a low voltage input?)

Results: different views of the step charging effect. Voltage can reach 800 Vp (See 6 pictures on the original doc)
2 signals: driving signal on the pulsing transformer, and step charging effect:
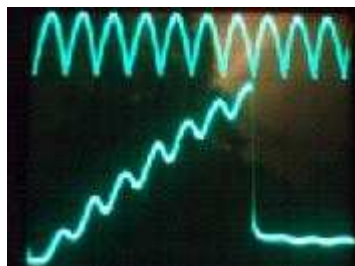
With the programmable counter, we can define: the number of pulses needed for the step charging, and the numbers of pulses for the relax time.
The max voltage of the step charging is defined by the ratio of the transformer Tr, and the adjustable input voltage. Typical value is 400V peak; higher voltages are possible, but some problems occur: distortion, noise, ...
The shape is also adapted by tuning the charging choke L.
Note: More detailed information is of course available, but written in French.

Conclusion: ...
But we have already identified some limitations:
- The design of the transformer to get high ratio is not so easy, given a high value of the secondary inductance, and also distortion of the wave;
- The current in the primary is very high, the electrical yield will not be good,
- the power amplifier seems weak to drive inductive charges, ...
- We are limited in the max voltage of the step charging effect (1,200V), because the transistor needed in the discharging circuit.

Trials of step charging on a real capacitor, 3,3nF 400V:

The number of pulses was programmed at 9
Trials of step charging on a real capacitor, 3,3nF 400V
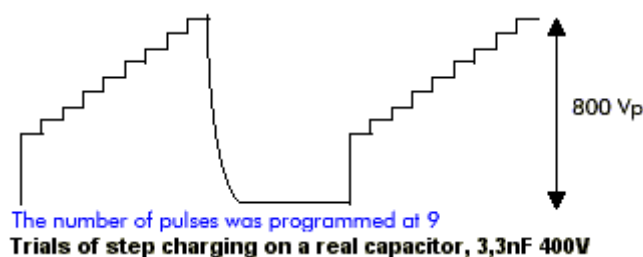
In that experience, the inductance L (resonant charging choke) has a small influence on the step charging effect; The more the number of pulses, the higher the voltage on the capacitor (of course limited by the max value of the pulse on the secondary of the transformer)
With this method, it;s easy to get high voltage pulses on the pulsing transformer. The current in the primary is very low, because the charge applied on the secondary is only the capacitor C (no DC current). The 'step charging effect' is also easy to obtain.

Next experiments: In the next few weeks, we would apply this signal to the insulated electrodes instead of the Y capacitor. To follow ...

(MDG nov07: I didn't found yet more recent results on their very very interresting experiments.
May be the solution to Meyer's cell is the thin film that is reported to form progressively on the electrodes, like if they needed a conditioning; perhaps that film makes a powerful insulating layer on the electrodes, the cell becoming then a real capacitor without any current leakage. But in this case bringing the capacitor/cell to its breakdown voltage limit has no more sens, because it would destroy this layer at each breakdown ...)

New analysis of the water behaviour: We read recently an article about Meyer's

invention, and some technical comments:
'... The resonance of the cell is very sharp, and can generally only be found by careful monitoring of the current while adjusting the pulse frequency very, very slowly. Even at frequency very close to the resonant frequency, there will be no indication whatsoever that the frequency has almost benn reached ...'

Future project: The idea is to get a specific generator driven by a computer, with a sweep Hz by Hz. Frequency increment is 1 Hz, every second for instance. So, it would take approx 20,000 sec = 5 hours.

The current observation will be automatic. If there is any drop of current at a certain frequency, the sweep on the generator will immediately be stopped by the computer, and the frequency memorized. This could work automatically, in the night. Several tests could be performed with different signals, with or without DC component part, different type of water ...

(MDG nov07: Successful replications of Meyer's cell by Lawtown and Ravi seem to prove that there is now 'magical resonant frequency' to look for ... I remember reading somebody affirming that the resonant frequency wouldn't appear at the exact moment we reach it, but that we needed to stay at list 8 seconds at this frequency for the effect to start ... I think it was about Mateiro Electrolysis, and it was bringing the all staff a level higher in the complexity and unprobability to reproduce !)

Charging chokes and inhibitor circuit: In the patent ... 961, there are 2 resonant charging chokes: one is fixed, the other one is adjustable.

In the patent ...961, there are 2 resonant charging chokes: one is fixed, the other one is adjustable. Till now, we haven't understood the exact use of the 2 charging chokes: for us, **2 inductances in series could be equivalent to one**, in a electrical point of view. In our design, the main inductance was adjustable; and **we saw clearly his action on the step charging effect**.
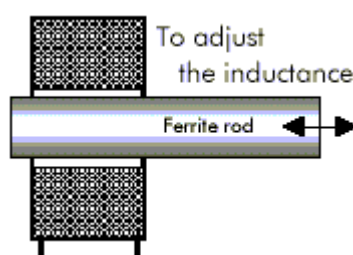
For example, our charging choke is 4.7 mH without ferrite rod, and 30 mH with it inside. We have re considered the use of them, and especially in **the ability to reduce the current leakage in the WFC**. In Meyer's Memo 422DA (Memo3), the resonant charging chokes are the same (100 turns each). One is fixed, the other adjustable, to fine tune the resonant action.

The total number of turns (200) is similar to the primary inductance ! interesting ! Considering that the primary inductance stores a magnetic energy during 1 pulse, this energy is transferred to the secondary, and this energy goes through the 2 charging

chokes towards the WFC.

In other Memo from Meyer, the 2 charging chokes are magnetically coupled. This sounds good.
The current I_c in the choke L1 goes through WFC and L2. But the same current in L1 produces a magnetic field, which creates in the choke L2 the same current I_c in the circuit.
Depending on the manner the connection is done with the 2 charging chokes, the current in the circuit will be very different:
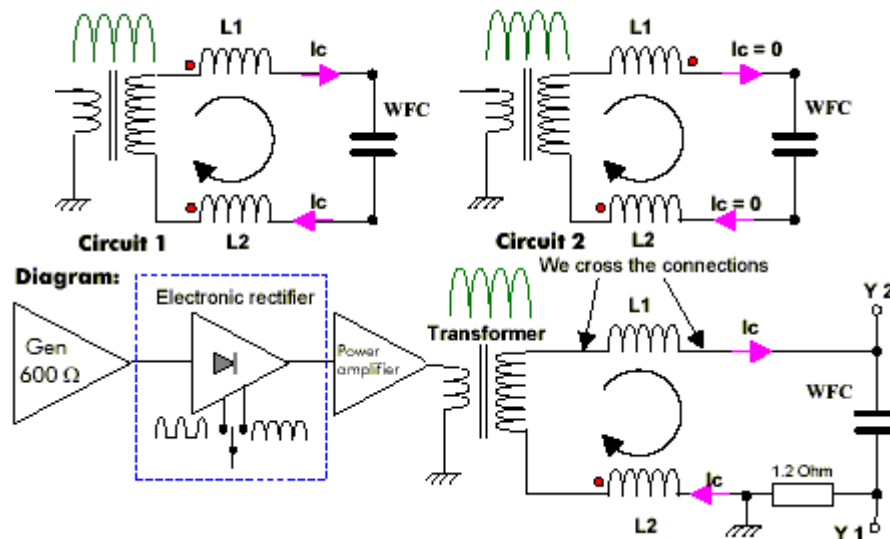
- The driving signal through the transformer is a half sine wave
- L1 and L2: magnetically coupled; charging choke: 2 x 27 mH
Important: the beginning of each windings is located by the red point
- WFC: Water Fuel Cell: Stainless Steel electrodes 7 x 10 cm, 1mm gap, in distilled water. The behavior is like a pure resistor.
- Y2: the scope measures the voltage on the WFC
- Y1: the scope measures the current (thanks to 1.2 ohms resistor)

Circuit 1: Standard connection, Y1= 108mA, Y2= 17Volts ; The current is due to the resistive part of the water, (157 ohms, normal value)
These values are stable in the range 500 Hz - 30 KHz, due to characteristic of the core.

Circuit 2: Cross connection, this is the circuit used by Meyer, called inhibitor circuit (MDG nov07: Is it the Tesla/Bedini bifilar we were looking for to collect Radiant Pulses?), Y1= 2.5mA, Y2= 0.4Volt ; These values are stable in the range 500 Hz - 30 KHz

Conclusion: In our experiment, the current is 43 times less, and also for the applied voltage on the water cell.
We tested another component, rated 2 x 15 mH, and we found quite the same values.

When the charging chokes are connected as explained in the Meyer document,

the current is drastically reduced in the resistive part of the Water Fuel Cell. End of document.
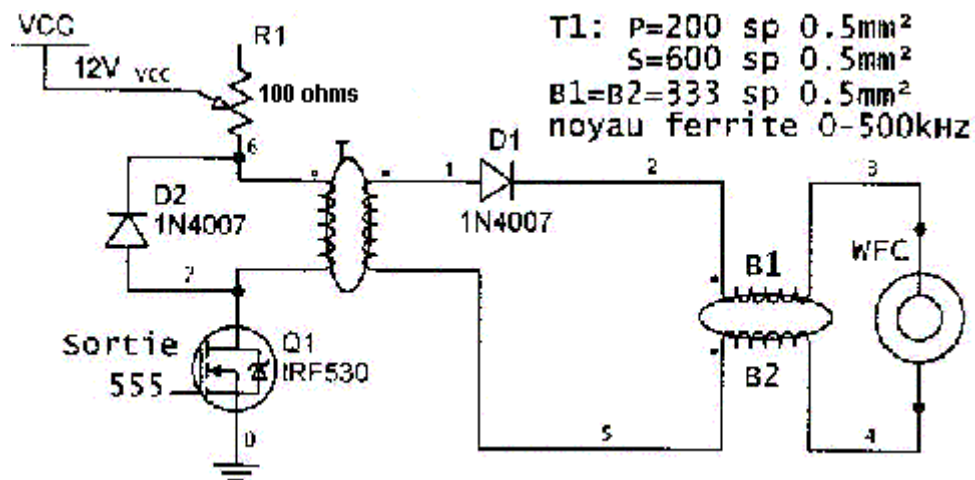
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Essais Meyer, in French from :
http://users.skynet.be/fa272699/Energie/Meyer/essais/index.htm

Essais n°1: http://users.skynet.be/fa272699/Energie/Meyer/essais/essais1/index.htm

Essais n°2: http://users.skynet.be/fa272699/Energie/Meyer/essais/essais2/index.htm
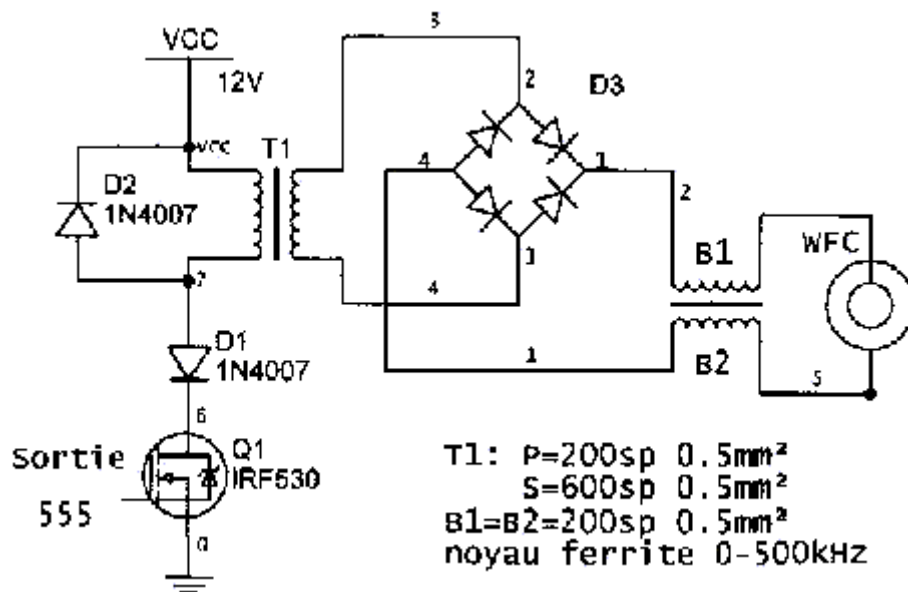
More PULSED ELECTROLYSIS Systems : (page created at November 2007 Update)

2005, A novel method of hydrogen generation by water electrolysis using an ultra-short-pulse power supply, Naohiro Shimizu and al. from 'A novel method of hydrogen generation by water electrolysis using.pdf' at http://my.opera.com/h2earth/blog/cybrarium

by NAOHIRO SHIMIZU, SOUZABURO HOTTA, TAKAYUKI SEKIYA and OSAMU ODA ; NGK Insulators, Ltd., 2-56 Suda-cho, Mizuho-ku, Nagoya, 467-8530, Japan.

Abstract: A novel method of hydrogen generation by water electrolysis using ultra-short-pulse power supply is demonstrated.
The ultra-short-pulse power supply consists of a static induction thyristor (SIThy) and a specific circuit which is called the inductive energy storage (IES) circuit. It was found that by using an ultra-short pulse with the width of 300ns, electrolysis takes place with a **mechanism dominated by electron transfer**, which is different from the conventional diffusion limiting process in DC electrolysis.

Introduction: It is possible to generate hydrogen by conventional DC water electrolysis, but this is undesirable for enviromental reasons if the electrical energy for the electrolysis is produced in thermal power stations from fossil fuel because of the generation of carbon dioxide. Fuel cells are promising and various systems are being studied worldwide. The generation of carbon dioxide during hydrogen generation through natural gas for fuel cells can be reduced compared with thermal power stations, but carbon dioxide is still generated. Hydrogen generation by photo-catalysis is preferable but the process efficiency is still very low for practical applications.

Recently, water electrolysis has been reconsidered as a promising method for hydrogen generation since the cost of electricity is decreasing, mainly as a result of wind-generated power. Hydroelectricity and nuclear power can be also used for water electrolysis without generation of carbon dioxide. Even though the electricity cost is falling, it is known that the plant cost for water electrolysis by DC power still dominates a large part of the hydrogen production cost. It is therefore desirable to find a new method of generating hydrogen from water at lower cost. In the present work, we have examined for the first time the applicability of an ultra-short-pulse power supply for water electrolysis.

Principle: In the conventional DC electrolysis of water, hydrogen is generated as a result of electron transfer from the cathode electrode to adsorbed hydrogen ions on the electrode surface. This electrolysis occurs when the applied voltage between the anode and the cathode exceeds the water decomposition voltage of about 1.6V, the

sum of the theoretical decomposition voltage of 1.23V at room temperature and the overvoltage of about 0.4V depending on electrode materials and other factors[1]. DC electrolysis is a diffusion limited process and the current flow in water is determined by the diffusion coefficient of ions. It is therefore difficult to increase the input power for a constant volume electrochemical cell without reduction in electrolysis efficiency.

We have applied an ultra-short pulsed power supply based on a static induction thyristor (SIThy), invented by Nishizawa et al. [2,3] and developed by Shimizu et al. [4,5], and an inductive energy storage (IES) circuit invented and developed by Iida et al. [6,7] and applied in several ways by Jiang et al. [8]. SIThys are Si devices with special structures for high power pulse generation and IES circuits are small-scaled circuits based on induction storage instead of conventional capacitor storage in order to use SIThys. We have applied SI thyristors developed in our laboratory to water electrolysis and found that water electrolysis occurs by a different mechanism from the conventional DC one.

When the ultra-short pulse voltage of less than seceral microseconds is applied to a water electrolysis bath, **the voltage application is so fast neither the electric double layer nor the diffusion layer can be stably formed in the vicinity of electrodes**.

The pulse width which is necessary for electrolysis without formation of the diffusion layer is estimated [9] to be:
$$\text{Del}.t < (1/4D).(X_{ad}/X)^2 \quad (1)$$

Here, Del.t is the pulse width (s), D the diffusion coefficient (cm^2 s^{-1}), X_{ad} the density of hydrogen ions on the cathode electrode (cm^{-2}) and X (cm^{-3}) is the concentration of hydrogen ions in the solution. This equation was simply calculated under the assumption that the total amount of adsorbed ions, X_{ad}, is equal to the diffusion layer thickness d (cm) multiplied by X, and d must be larger than the diffusion length $(4D \text{ Del}.t)^{1/2}$ during the pulse application, considering that the pulse application duration must be shorter than the time necessary to fill the diffusion layer with hydrogen ions. From this equation, taking as $D=2.3 \times 10^{-5}$ cm^2 s^{-1} for proton diffusion coefficient [1], $X=6 \times 10^{20}$ cm^{-3} for 1M for KOH solution and $X_{ad}=10^{15}$ cm^{-2} for platinum metal surface, the pulse width is estimated to be about 3 microsecond. **This means that electrolysis occurs without forming the diffusion layer in the present work since the pulse width is one tenth of this critical 3 microsec.**. It is also known that the **time necessary for the formation of the stable electrical double layer is of the order of several tens of milliseconds [1]. It is therefore evident that the stable electrical double layer is not formed** during the present ultra-short pulse application. Since an electric field as high as 2.6-47V cm^{-1} can be applied in the present work, the lack of formation of the stable electric double layer means that **hydrogen ions can be moved faster than in conventional DC electrolysis**. These different mechanisms that arise via ultra-short pulse application, leading to the absence of the diffusion layer and the stable electrical double layer, mau open the possibility of high capacity water electrolysis.

Experimental: In order to examine the possibility of water electrolysis by ultra-short pulses, 3.41 of 1M KOH solution were put in an electrolysis bath. 3.3x9cm^2 platinum plates were used as the anode and cathode. The distance between electrodes

was set as 3 cm. The solution temperature was kept at 293 +-2 K during the experiment. A conventional DC power supply and an ultra-short pulse power supply were used for comparison. The ultra-short pulse power supply consisted of the IES circuit with a SIThy as shown in Figure1. Ultra-short pulses with a voltage pulse-width of about 300ns, with the secondary peak voltage rangin from 7.9 to 140V were applied to the electrochemical bath with the frequency of 2-25 kHz. The input power was changed by increasing the pulse frequency.

In the IES circuit (Figure1), the gate of the SIThy is connected to the anode through a diode. When the FET (Field Effect Transistor) is switched on, the current through the inductive coil (L1) gradually increases. When the FET is switched off at a certain current level, the current flow is instantly switched off and **the inverse voltage V_{p1} is induced through the coil (L1)**. This IES circuit is the simplest and most compact one yet reported for generating ultra-short pulses [6-8].
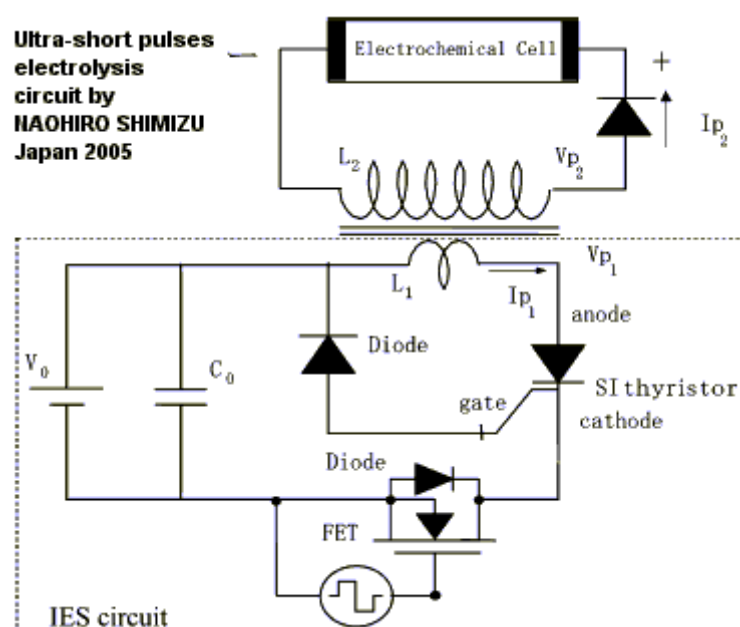
Fig.1. Ultra-short pulsed power supply circuit for water electrolysis based on the inductive energy storage (IES) circuit [6-7] with a static induction thyristor (SIThy).

In the case of water electrolysis using the above ultra-short pulse power, the water bath electrodes are connected to the secondary reactance L2 as seen in Figure1. The pulsed voltage V_{p2} is induced in the secondary reactance L2, synchronized with the pulsed voltage V_{p1} as seen in Figure2. In the first stage, when this secondary pulsed voltage is applied to the electrodes in the water bath, **the bath acts as a quasi-capacitor since the pulse width is too short for ions in the bath to cause a current through the bath**. This gives a very short pulsed current I_{p2} in the circuit through the secondary coil (L2). This current is too rapid to be seen in the figure. The water bath is not a real capacitor since all electrons collected at the cathode are transferred to hydrogen ions and high voltage does not remain as in the case of conventional capacitors. After this pulsed voltage had been applied to the electrolysis bath, in the second stage, the current I2 flows through the circuit. This current flows very slowly as seen in the figure with several tens microseconds. Since the application of the

pulsed voltage V_{p2} was already terminated, this current flow I2 may not be due to electron transfer to hydrogen ions but ion transport in the bath, thus compensating the lack of hydrogen ions in the vicinity of the cathode electrode.

Results and discussion: The hydrogen generation rate and its efficiency are plotted as a function of the input power between the electrodes in Figure3. In the case of DC power electrolysis, when the applied voltage is increased, the current increases so that hydrogen generation rate increases, but the efficiency compared with the ideal generation rate decreases **from 40% at 2.2V to 8% at 12.6V**. Here, the ideal generation rate was calculated from thermodynamical data [10], for the thermodynamical energy for hydrogen to be converted to room temperature water. The decrease in efficiency can be explained because an electron with high energy can only reduce one hydrogen ion so that the difference between the applied voltage and the decomposition voltage is dissipated as heat. Since the current itself is also increased by increasing the applied voltage, electrons which are not used for hydrogen reduction are also dissipated as heat.

Contrary to the case of DC power electrolysis, ultra-short power electrolysis shows a quite different behaviour. As seen in Figure3(a), in the case of DC electrolysis, the hydrogen generation rate was not proportional to the input power. It deviates from the ideal line. The hydrogen generation efficiency is calculated as the ratio of the real generation rate to the ideal hydrogen generation rate and it can be seen in Figure3(b) that the efficiency is largely decreased in the case of DC electrolysis. This decrease is mainly because the energy of most electrons is dissipated as heat.

In the case of pulse power, it is seen in Figure3(a) that the hydrogen generation rate is increased as the peak voltage is decreased. It should be noted, however, that the hydrogen generation rate increases as a function of the input power. This behaviour is quite different from the case of DC electrolysis. When the input power is increased by increasing the pulse frequency, the efficiency was not decreased in the case of high peak voltages, and was increased in the case of low peak voltages as seen in Figure3(b). **This behaviour is contrary to the case of DC power**. This increase of the efficiency for the case of low peak voltage may be because the energy dissipation is decreased since each electron has lower energy and the pulse waveform is sharper for low peak voltages. For these reasons, power can be efficiently consumed for electrolysis. This fact implies that the ultra-short power electrolysis is a promising method in which the power application can be increased even with an increase in electrolysis efficiency.

In the case of DC power, the electric field is always present. The electrical double layer is also present and the diffusion layer always exist. The current flow is therefore determined by the diffusion of ions with a driving force of ion concentration difference. When the applied voltage is increased, the efficiency decreases. In the cse of DC power, the power applicable for a certain volume of the electrolysis bath is therefore limited.
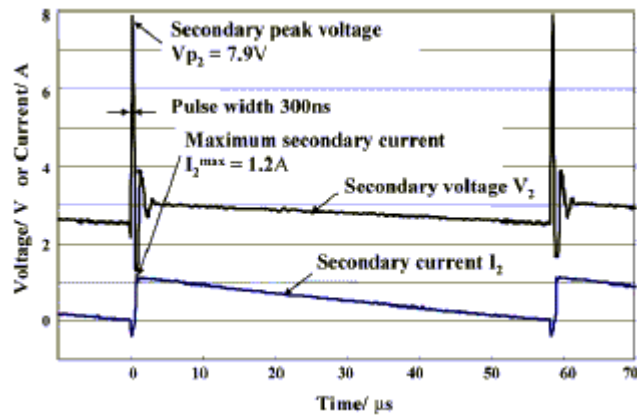
Fig.2. A typical example of pulse waveforms for the first and second stages. In the first stage, an ultra-short pulse with the width of about 300ns is applied. In the second stage, the current flows slowly.
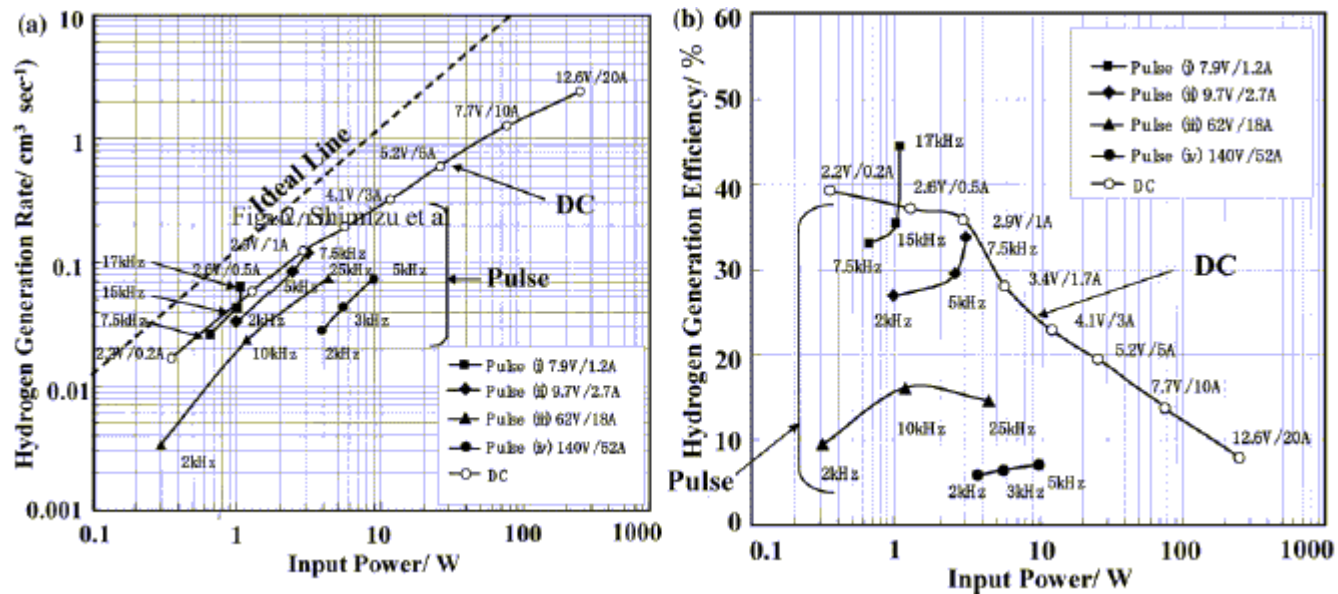

Fig.3. Hydrogen generation rate (a) and its efficiency (b) as a function of the input power. In the case of pulsed power, various circuits with different voltage (V_{p2}), current (I_2^{max}) and frequency ((i)-(iv)) have been compared. The input power is the integration of the secondary voltage and current multiplied by the frequency. The ideal line was calculated from the thermodynamical energy for hydrogen to be converted to room temperature water. Hydrogen generation efficiencies in (b) were calculated as the hydrogen generation rate divided by the ideal hydrogen generation rate at the same input power.

In the case of ultra-short pulsed power, the electric field is applied for only a very short time less than several microseconds which is much shorter than the time necessary for the formation of the constant electric double layer. **By the application of the ultra-short pulse, electrons are collected on the surface of the cathode electrode as in a capacitor**. The electrons gathered however are quickly transferred to hydrogen ions for hydrogen generation so that electrons do not remain in the

electrode as in a conventional capacitor. After this electron transfer, the current I2 flows slowly as shown in Figure2, probably due to the ion diffusion in the electrolysis bath.

From the above considerations, it can be concluded that the electrolysis mechanism for ultra-short pulse power is very different from that of DC electrolysis. DC electrolysis is based on electrical double layer formation and is a diffusion-limited process, while ultra-short pulse power electrolysis is based on the strong electric field application and the electron transfer limited process. This difference seems to be very important for the practical and industrial application of ultra-short power electrolysis since the electrolysis power can be increased without decreasing the efficiency.

Conclusion: We have shown in this preliminary work how an ultra-short power supply, consisting of a SIThy and an IES circuit, can be applied to water electrolysis for hydrogen generation. It has been found that an ultra-short pulse of about 300ns could generate hydrogen gas. It was also found that power could be increased without decreasing the electrolysis efficiency. The present results point to the possibility that water electrolysis by ultra-short pulsed power occurs under the electron transfer-rate limiting mechanism, which is different from the conventional diffusion-limiting mechanism in DC power electrolysis.

Ackonledgements: We thanks Messrs S. Ohno and T. Inaba for their encouragement of this work, Mrs K. Matsuhiro, Y. Imanishi and S. Tange for their helpful discussion, and Mr M. Imaeda for his experimental help.

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1984, Tay-Hee Hau, Korea, US4427512A1 "**WATER DECOMPOSITION**

METHOD AND DEVICE USING IONIZATION BY COLLISION" , from
Website update for June/July 2006 at: http://www.waterfuelcell.org/UpdatePage.html

Abstract: This invention relates to the decomposition of water into oxygen and hydrogen by the effect of ionization by collision among the water molecules. Water of liquid dielectric characteristics is contained within a solid dielectric container having higher dielectric constant relative to that of the water, the solid dielectric also having thermostability. A high voltage is then applied to the solid dielectric, creating a strong enough electric field, exceeding the covalent bond of the liquid dielectric, to decompose the water, while the solid dielectric container maintains its stability.

WATER DECOMPOSITION METHOD AND DEVICE USING IONIZATION BY COLLISION
4,427,512
Jan. 24, 1984
Tay-Hee Han,
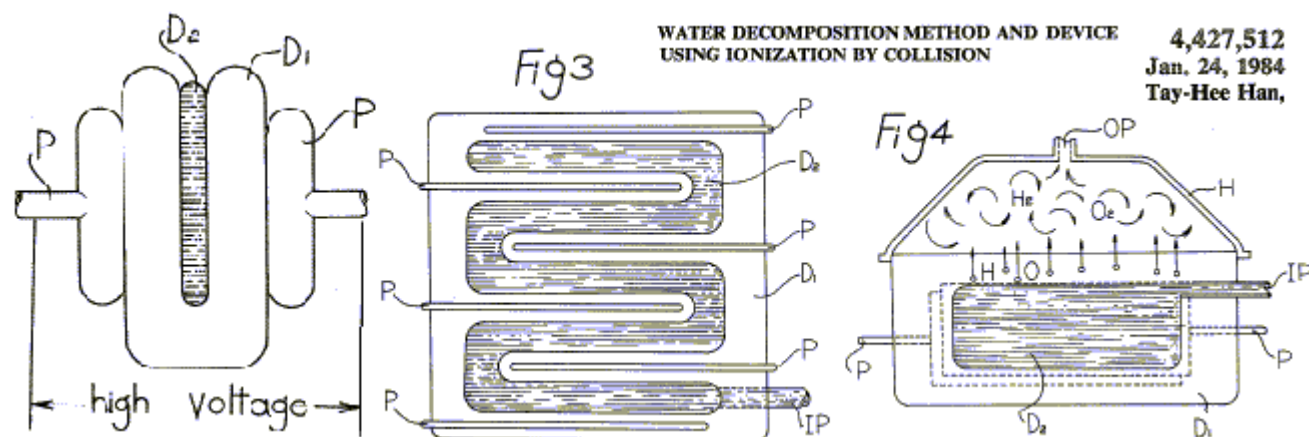
This is a continuation of application Ser. No. 167,147 field July 8, 1980, now adandoned.

Background of the invention: Until now we have used the electrochemical reaction in electrolysis, in which the ions in the electrolyte flow to the opposite electrode to decompose the electrolyte and make pure metals deposition on the surface of the electrode when the electrode is put into the electrolyte and the direct current is changed with.

In addition, in the case of non-electrolyte the electrolysis does not happen though equipping the dielectric with the electrode. And if the higher voltage is given to the dielectric than the withstanding voltage strength of the dielectric, the electrolyte is broken down in the dielectric and the large quantity of electric current is flowed between the electrodes.

We have only considered the prevention of the dielectric breakdown because when this dielectric breakdown happens, the molecule of the dielectric are often decomposed, but this dielectric and electrical machinery become useless.

Description of the prior art: USP 3,674,676 about the electrode used in above electrolysis. The cathode covered with the diaphragm is used at a regular interval from the neighboring anode which is made by using titanium plate or expanded metal or platinum group. And according to West-Germany Pat. 72/12225 is known to use asbestos diaphragm with perfluoro ethylen or trifluoro ethylene sulfon acid having positive ion exchangeability. But according to above patents, they have the weak point

that they lose exchange-ability and need much expenditure making the diaphragm

Summary of the invention: It is an object of the present invention to provide the water decomposition method using ionization by collision, and another object of the invention is to provide the water decomposition device.

The characteristic of this invention is to decompose oxygen(O2) and hydrogen(H2) from the water molecules by causing ionization by collision, making complex dielectric layer filled with liquid dielectric, that is, water between the solid dielectric plate having the high dielectric constant and withstanding voltage strength, and by causing strong electric field strength over the withstanding voltage strength in liquid dielectric having relatively low dielectric constant in comparison with the solid dielectric.

Then as low electric field strength short of the loithstanding voltage strength is formed at both side of the liquid dielectric and the solid dielectric restrain much electric discharge current to flow between the electrodes keeping stable state, the water continuously receives the strong electric field strength, and therefore water-molecules are decomposed.

It the two kinds of dielectric which are differing in dielectric constant comprise 3 layer, that is, we put two same electric plate and put another dielectric between them, the dielectric which has high dielectric constant receives low electric field strength, and high electric field strength is formed at the low dielectric of low dielectric constant. Then the dielectric intruded receives stronger electric field strength than both side of the dielectrics.

When the electric field strength exceeds the withstanding voltage strength of its own, the molecules of the liquid dielectric is decomposed by ionization by collision, the dielectric breakdown happens and then both side of the dielectric layer can be in stable state because it receives weak electric field strength.

Therefore in the case of passing strong voltage to the complex dielectric layer, the strong electric field strength can be formed at a layer and the molecules of the liquid dielectric can be decomposed by the ionization by collision. The invention is illustrated according to the appended figures.

Brief description of the drawings:
Fig.1: a cross section for illustration of this invention.
Fig.2: a side-view.
Fig.3: a cross section for the illustration of a many-step decomposition device as an example.
Fig.4: a side-view illustration of Fig.3.

Detailed description of the preferred embodiments: From the Fig.1 and Fig.2, the solid dielectric (D1) forms 'U', the middle interval (d2) is filled with liquid dielectric and the both sides of the solid dielectric (D1) has the electrode.

If the strong voltage (V) for example 20kV-60kV is given to such electrodes, the electric field strength satisfies these equations.

$$E_1 = \frac{er \cdot V}{2erd_1 + d_2} \quad (1) \quad E_2 = \frac{V}{2erd_1 + d_2} \quad (2)$$

The withstanding voltage strength of the solid dielectric (D1) V.kV/m, the dielectric constant of the solid dielectric: e1, the electric field strength of the solid dielectric: E1, the interval of the solid dielectric: d1, the with-standing voltage strength of the liquid dielectric (D2): V2 kV/m, the dielectric constant of the liquid dielectric: e2, the electric field strength of the liquid dielectric: E2, the interval of the liquid dielectric: d2, the ratio of the two dielectrics: e2/e1=er.

As we can know from the above equations, if er, the ratio of the two dielectrics, is much smaller than 1, low electric field strength is formed in the solid dielectric (D1) in comparison with the liquid dielectric (D2).

Reversely if strong electric field strength is formed in the dielectric (D2) and the electric field strength exceeds the withstanding voltage strength of its own, the dielectric breakdown, that is, ionization by collision happens, and if it receives the electric field strength lower than the withstanding voltage strength of its own, it becomes the stable state. Accordingly to above method, the water (H2O), liquid dielectric, can be decomposed with hydrogen and oxygen.

Now 'U', which we can see from Fig.1 and Fig.2, is made of solid dielectric of the type of ceramics which has exceedingly high relative dielectric constant in comparison with 80 and can resist high withstanding voltage strength and high temperature. If we make complex dielectric layer which is filled with water in the middle interval (d2) and tens of thousand voltage is flowed into the electrode (p), then, as the relative dielectric constant becomes er/1 by the equation (1) and (2), the water receives electric field strength of its own and the molecules of the water are decomposed into hydrogen and oxygen by the ionization by collision.

As both sides of the solid dielectric receive weak electric field strength short of the withstanding voltage strength of its own and restrain electric discharge current to flow in the stable state, water is continuously decomposed by receiving the strong electric field strength.

This phenomena can happen on the condition that relative dielectric constant of the solid dielectric is tens of times or hundreds of times as high as that of the water, that is, er<<1 and its nature is such that it can resist the withstanding voltage strength and high temperature, and there is the system of ceramics which satisfies these conditions and so there is no difficulty in decomposing water by **using the theory of the distributive electric field strength** of the complex dielectric layer and ionization by collision of the dielectric.

As illustrated in Fig.4, by installing gas-gathering-house (H) on the upper part of the complex of dielectric layers, we can separate the hydrogen and the oxygen by liquefaction or can use the mixed gases as it is. Above method is excellent in that it does not need other additions in comparison with electrolysis and the electrode is little coated from the electric discharge current and needs no treatment.

According to the example, the relative dielectric constant of the ceramics, solid dielectric; E1=3,500. the thickness of the dielectric layer; D1=5mm, the withstanding voltage strength (V1); V1=over 54 kV/mm. The thickness of the liquid dielectric layer filled with water; d2=2mm.

Like Fig.1 and Fig.2, we made complex dielectric layer and the voltage of 50kV flowed into the electrode (p) installed and both sides of the solid dielectric (D1) received the electric field strength E1=0.52 kV/mm and it became in stable state because it is short of the withstanding electric field strength E2=22.42 kV/mm and the ionization by collision happened and was decomposed in hydrogen and oxygen. Then, as 7.2 cc of water was decomposed, the mixing oxygen and hydrogen gas was collected.

What is claimed is: 1/ A water decomposition method utilizing ionization by collision, said method comprising the steps of:
provinding a solid dielectric container formed from a material having a substantially higher dielectric constant than that of water and capable of withstanding voltages greater than about 20kV without electrical or physical breakdown, said container having a liquid- receiving space;
positioning a pair of electrodes on opposite sides of the outside of said liquid-receiving space of said container;
filling the liquid-receiving space of said solid dielectric container with water characterized by a covalent bond;
applying a continuous voltage greater than about 20kV to said solid dielectric container and across said electrodes to subject said water to a strong electric field strength exceeding the covalent bond strength thereof;
wherein said water is decomposed continually, by ionization by collision, into hydrogen and oxygen for so long as the voltage is applied to said electrodes;
collecting the hydrogen and oxygen gases that are evolved; and
continuously refilling said liquid-receiving space with water to maintain a predetermined quantity of water therein as decomposition occurs.

2/ The method of claim 1, wherein the solid dielectric container is made of ceramic.

3/ THe method of claim 1, wherein said strong electric field strength is in the range 20kV/mm - 60kV/mm

4/ The method of claim 1, wherein said strong electric field strength is greater than about 50kV/mm

5/ The method of claim 1, wherein said solid dielectric container comprises two parallel dielectric slabs having a dielectric constant greater than ten times that of water.

6/ The method of claim 5, wherein said liquid dielectric comprises pure water.
End of integral transcription. Mistakes in english language are from the original document.

![No OCR] 2007, Hydrogen and oxygen ionisation, from the excellent waterfuelcell.org forum,
http://waterfuelcell.org/phpBB2/viewtopic.php?t=405&start=0&postdays=0&postorder=asc&highlight=

Posted by 'PULSED)ReverseH/Ofuelcell' : Sat May 12, 2007 11:10 pm ; Post subject: Hydrogen and oxygen ionisation…

Hydrogen and oxygen ionisation… This may be one way the Water fuel cell (Satn Meyer's one) breaks the covalent bonding of the water molecule. The two electrons covalently bonding the hydrogen to the oxygen are stripped of when the oxygen is ionised and looses four electrons, now because the oxygen atom needs another electron it takes it from the much weaker hydrogen atom, when it dose this the hydrogen looses its electron to the much stronger oxygen atom. The reason the oxygen is stronger then the hydrogen is because the hydrogen atom has only one proton whereas the oxygen atom has eight, so the oxygen has a stronger electrical charge. When the oxygen atom takes the hydrogen's electron it breaks the covalent bond (remember we are only doing this with voltage). The hydrogen electron is the thing that is holding the water molecule together, so when the oxygen atom takes the hydrogen atom's electron it is breaking the covalent bond. The oxygen normally gets it's electrons from amp flow, that would be the point where the high currant would flow, but because we are now restricting electron flow the oxygen atom takes the electrons from the hydrogen atom, this breaks the covalent bond.

Thanks, Sukhoi Company (JSC) -

If the world should blow itself up, the last audible voice would be that of an expert saying it can't be done.

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![No OCR] 1978, Shigeta HASEBE, USP 4,105,528, Apparatus for Decomposition of Aqueous Liquid from 'DeComp_Magnetic Vortex_Patent 4105528.pdf' at
http://my.opera.com/h2earth/blog/cybrarium

Abstract: A n apparatus for decomposition of liquid in which vortical negative and positive electrodes are arranged in a closed relation but in short free positions and these two electrodes are supplied with a power through external terminals and the electrolyte is placed to flow between the negative and positive electrodes for the electrolysis between two electrodes under the function of the potential magnetic field formed by the coil current which is generated by the electrodes with active movement of an electrolytic ion so that the electrolysis of water takes place smoothly under the spin functions of the atom and electron.

APPARATUS FOR DECOMPOSITION OF AQUEOUS LIQUID
Shigeta Hasebe, Yokokoshi, Japan

FIG.2

4,105,528
Aug. 8, 1978

FIG.3
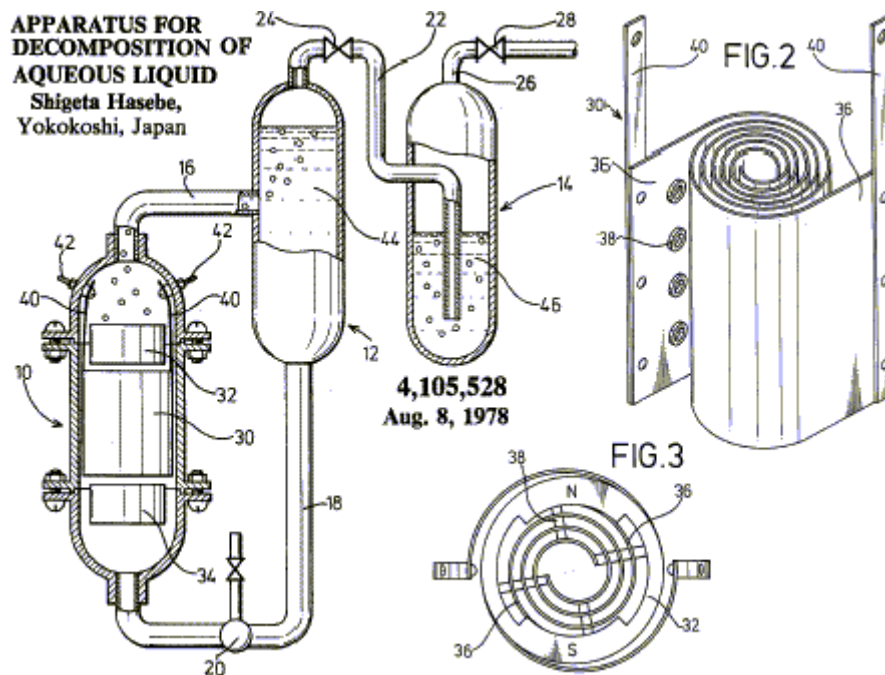
Background and Summary of the Invention: This invention relates to an apparatus for decomposition of liquid wherein an electrolyte in flow is subjected to an electrolysis for production of gases.

As is well known, water is composed of a hydrogen atom and an oxygen atom. When water is sufficiently magnetized, each constitutive atom is also weakly magnetized to rotate the elementary particule in a particular direction. This rotation of the elementary particule is generally called as 'spin'. That is, the spin function is caused by an electron, atomic nucleous, atom and even by the molecule. When a negative electrode is immersed in the electrolyte (NaOH solution) for applying a voltage thereto to cause the elementary particule to react with the electric field, the coupling state of the hydrogen with the oxygen is varried and the electrolysis is facilitated under the function of spin.

In accordance with the present invention, vortical negative and positive electrodes are arranged in a closed relation but in short free positions and these two electrodes are supplied with a power through external terminals and the electrolyte is placed to flow between the negative and positive electrodes. Thus, the electrolyte is subjected to the electrolysis between two electrodes under the function of the potential magnetic field formed by the coil current which is generated by the electrodes with active movement of an electrolytic ion (Na+, OH-) so that the electrolysis of water takes place smoothly under the spin functions of the atom and electron.

It has been confirmed that **the rate of the electrolysis of water according to the invented process is approximately 10 or more times (approximately 20 times on calculation) as that of the conventional electrolysis**.

The structural design of electrolytic cell in accordance with the invented system is characterized in that the electrolyte flowing through the supply ports provided at the lower portion of the electrolytic cell is subjected to the potential magnetic field in the

presence of the permanent magnet and that the electrodes for electrolysis is subjected to the more potential magnetic and electric fields to obtain a sufficient spin effect.

It is, therefore, a general object of the invention to provide a novel apparatus for decomposition of liquid in which an electrolyte (NaOH) solution is subjected to magnetic field to carry out an electrolysis under the function of the spin of an element constituting water molecule thereby to produce a great amount of gas with less consumption of electric energy.

A principal object of the invention is to provide an apparatus for decomposition of liquid including a liquid circulating system for separation of gas and liquid in which positive and negative vortical electrodes are arranged to traverse a flow path of liquid and said vortical electrodes at their opposite ends being arranged with magnetic materials to apply a predetermined voltage for a liquid passing through a magnetic field by said positive and negative cortical electrodes thereby to promote generation and separation of cation and anion with a high efficiency in production of a large quantity of gases by way of an electrolysis of liquid.

Others objects and advantages of the present invention will become apparent as the detailed description thereof proceeds.

Brief description of the drawings: The invention will be described more in detail in the following with reference to the accompnying drawings, wherein:
Fig.1 is a partially cross-sectional schematic elevation of an apparatus in accordance with the invention;
Fig.2 is a perspective view of electrodes arranged in accordance with the invention; and
Fig.3 is a plan view of electrodes with magnetic materials.

Description of the preferred embodiment: In Fig.1, an electrolytic cell 10, a gas-liquid separation tank 12 and a gas washing tank 14 are vertically arranged in juxtaposition with a location of the electrolytic cell 10 in a little lower level than the others.

These cell 10 and tanks 12, 14 are communicated with each other through a delivery pipe 16 which communicates the top of the electrolytic cell 10 with the middle portion of the gas-liquid separation tank 12, a feed-back pipe 18 provided with a pump 20, which communicates the bottom portion of the gas-liquid separation tank 12 with the bottom portion of the electrolytic cell 10, and a conduit 22, which is extended from the top portion of the gas-liquid separation tank 12 through a valve 24 into the bottom portion of the gas washing tank 14. To the top portion of the gas washing tank 14 is connected a drain pipe 26 through a valve 28.

In the electrolytic cell 10, positive and negative vortical electrodes 30 of diameters as defined in accordance with an internal diameter of the electrolytic cell 10 are arranged coaxially, and at upper and lower positions of the vortical electrode 30 are arranged **magnet rings 32 and 34 of ferrite and the like**, of which positive and negative magnetic poles are confronted therein so that a magnetic field generated is orthogonal to the axis of the electrolytic cell.

The vortical electrodes 30 are composed of two metal strips 36 which are wound into vortical shapes with a plurality of cylindrical insulating spacers 38 of rubber and the like interposed therebetween in attachment to the surface of the metal strips 36.

From the metal strips 336 are withdrawn lead wires 40, which are in turn connected respectively to positive or negative electrode terminals provided int he inner wall of the electrolytic cell.

The electrolytic cell 10 and the gas-liquid separation tank 12 are filled with a electrolyte 44 which may be circulated by the pump 20 whereas the gas washing tank 14 is filled with a washing liquid 46 to such a preferred level that gases gushing out of the conduit 22 is well washed.

The apparatus in accordance with the present invention may be well applicable to an electrolysis of flowing water for production of hydrogen gas and oxygen gas at a high efficiency. That is to say, the electrolytic cell 10 and the gas-liquid separation tank 12 are filled with the electrolyte 44 which is constrained by operation of the pump 20 to flow through a magnetic field in an annular path in which positive and negative magnetic poles N, S of the magnets 32 and 34 are confronted and through the metal plates 36 of the vortical electrode 30 to impart an orientation to an electrical migration of cation and anion with increased gas separation rate and promotion of electrolysis.
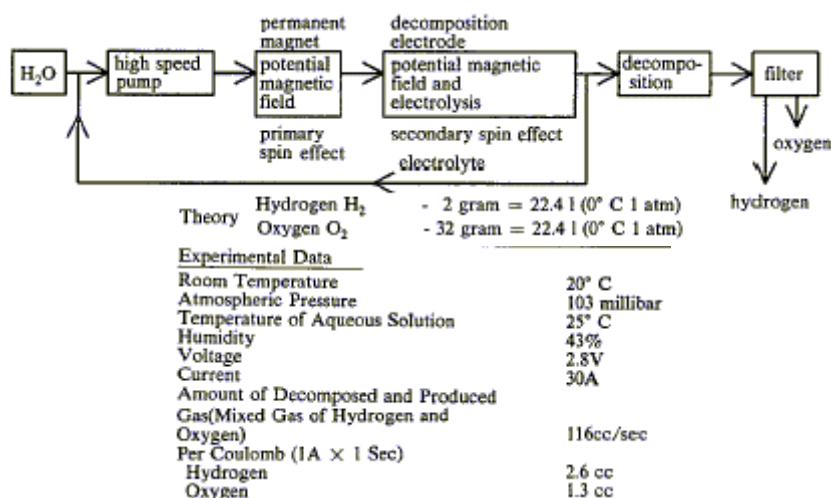
Especially, the flowing oxygen gas serves to facilitate a gasification as it has a magnetic property of variable under an influence of the magnetic field. **The vortical electrodes 30 in accordance with the invention brings a remarkable increasement in the electrolytic rate since a hydraulic diameter in a space between metal strips of the electrode 30 is reduced and hence the flow velocity in the space is increased so that a positive convection in the gap serves to cause turbulence and accordingly gasified bubbles produced by an electrolysis and attached to the surface of the electrode 30 are removed instantly in replacement by fresh ions**.

The vortical construction of positive and negative metal strips alternately opposing to each other enables a desired reduction in bulk of the cell, while increasing a contacting area with the electrolyte 44 with relatively short migration distance of ions for promotion of gasification. On the other hand, insulating spacers 38 interposed between the positive and negative metal strips 36 serves to develope desired turbulence of the electrolyte passing through the space.

The liquid circulating system for separation of gas and liquid requires no other driving unit except the circulation pump 20 to achieve separation of gas and liquid by utilizing differences in water heads developed among the cell 10 and the tanks 12 and 14. In other words, a flow of gas-liquid mixture supplied from electrolytic cell 10 is fed into the gas-liquid separation tank 12 where due to the difference in buoyancy of gases and liquid, gas rises and is fed into the gas washing tank 14 whereas the liquid goes down and is returned again to the electrolytic cell 10. The washing tank 14 is filled with convenient washing liquid 46 so that gases gushing out of conduit 22 are washed and fed into the drain pipe 26. Thus, the apparatus may be constructed at reduced cost without complexity.

As hereinbefore described, the magnets 32 and 34 provide positive and negative

magnetic poles N, S which are confronted in the annular wall for facilitating an alignment between the cross section of the flow-path of the liquid and the annular portion of the magnets 32, 34 and a generation of a magnetic field in a direction perpendicular to that of the liquid flow so that the liquid is ensured to flow in the magnetic field.

Theory   Hydrogen H_2 - 2 gram = 22.4 l (0° C 1 atm)
         Oxygen O_2 - 32 gram = 22.4 l (0° C 1 atm)

Experimental Data

Room Temperature	20° C
Atmospheric Pressure	103 millibar
Temperature of Aqueous Solution	25° C
Humidity	43%
Voltage	2.8V
Current	30A
Amount of Decomposed and Produced Gas(Mixed Gas of Hydrogen and Oxygen)	116cc/sec
Per Coulomb (1A × 1 Sec)	
Hydrogen	2.6 cc
Oxygen	1.3 cc

(MDG nov07: 116cc of Hydroxy per sec. = **417 L/hour** (7 L/mn) for 30Ah x 2.8V= **84Wh** ; That's **5 Liter of Hydroxy per Wh <=> <u>0.2Wh per liter !!!</u> AMAZING EFFICIENCY**.
This concept produced 15 times more Hydroxy gas than our already well efficient 6 serie-cells car electrolyzer straight DC from alternator !
He his using 2.8V, so coupling 5 of his cells in series (5 x 2.8 = 14V) and using a car alternator, for 30A (total power consumption 30A x 14V = 420Watts), you will get an amazing amount of 5 x 7 = 35 L/mn of Hydroxy !)
With our 6 cells series we are getting 3Wh/L (1 L/mn for 15A) and we were already very proud ... This design is ways over Faraday's maximum = OVERUNITY)

The theoretical amount of generation of hydrogen and oxygen by the electrolysis in accordance with the present system are mentionned below. Hydrogen H_2 - 1 gram = 11.2 l (0 deg. C at 1 atm). Oxygen O_2 - 8 gram = 5.6 l (O deg. C at 1 atm).

However, the experimental daata have showed the following facts:

Per 1 Coulomb	Hydrogen	2.6 cc at 20° C
	Oxygen	1.3 cc at 20° C
Per 1 Faraday	Hydrogen	2.6 cc × 96540 ≈ 250
	Oxygen	1.3 cc × 96540 ≈ 125
	(where 1 F = 96540 Coulomb)	

Even by correction at the room temperature of 20 deg.C, the rate of generation over 20 times could be obtained.

As hereinbefore fully described in accordance with the invention generation and separation of cation and anion in a flowing liquid is facilitated at a high efficiency of gas production rate by the electrolysis.

While certain preferred embodiments of the invention have been illustrated by way of example in the drawings and particularly described, it will be understood that various modifications may be made in the constructions and that the invention is no way limited to the embodiments shown.

What I claim is: 1/ Apparatus fro the decomposition of aqueous liquid whereby gas is formed comprising a cell, having an inlet at one end and an outlet at the other, positive and negative electrodes mounted within said cell between said inlet and outlet connected to a source of elecctric current, said electrodes being wound about each other in substantially coaxial helices to form a vortex transverse to the flow of liquid, and magnetic means mounted with said cell at each of the axial ends of said electrodes.

2/ The apparatus according to claim 1, wherein said inlet and outlet meansare at axial ends of said electrodes.

3/ The apparatus according to claim 2, including a gas-liquid separation tank and a gas-washing tank each vertically arranged in juxtaposition, conduit means connecting the top of the cell with the mid-portion of the gas-liquid separation tank, a feed-back conduit connecting the bottom end of the gas-liquid separation tank with said pump, a conduit connecting the top end of the gas-liquid separation tank and the lower portion of the gas-washing tank, a valve inserted in said latter conduit and a drain pipe connected to the top end of the gas-washing tank for exhaust of the gas.

4/ The apparatus according to claim 1, including a pump at the inlet for feeding the liquid under pressure through said cell.

5/ The apparatus according to claim 1, wherein each of said electrodes is formed of at least one sheet of metallic material, each electrode being provided with a lead wire secured to the cell, and having contact means extending through the wall thereof.

6/ The apparatus according to claim 1 including insulating spaces interposed between said electrodes.

7/ The apparatus according to claim 1, wherein said magnetic means comprise annular members having diametrically opposed positive and negative poles lying orthogonal to the flow of liquid.
End of full transcription of the patent.

N.R. SEIDMAN, Entropic Repercussion of Water-Dielectric Breakdown, Water Fuel LLC, Bayside, New York 11360, USA, from 'SeidmanVoltageBreakdown.pdf' available at http://my.opera.com/h2earth/blog/cybrarium

Upon achieving the voltage magnitude threshold associated with water-dielectric breakdown, a path of molecules is ionized between the negative and positive capacitor plates. After molecular ionization, an alternating positive negative ionic arrangement

emerges where the negatively charged capacitor plate is followed by a positive ion then a negative ion in continuing repetition until the path is concluded by the positively charged capacitor plate; the arrangement of the ions is governed by an attempt to achieve charge neutrality. The newly established path of conductivity allows the voltage stored in the capacitor to discharge via the creation of a current flow through said path. In addition to the energy (E_{in}) delivered by the discharging of the capacitor, this publication suggested that a net kinetic energy (E_k) results from the alignment of the ions associated with water-dielectric breakdown conditions.

I. **Introduction**: The empirical parameters of water-dielectric breakdown have been thoroughly investigated throughout recently scientific history. Most recent it has been investigated by Sandia National Laboratories [1]. Their investigations have produced an empirical equation (1) specific devised for capacitors with infinite area.

$$E_{pTeff}^{0.330+-0.026} = 0.135 +- 0.009 \ (1)$$

In equation (1), $E_p = V_p / d$, where E_p is has units of MV/cm, V_p is the peak voltage across the capacitor with units of megavolts (MV), and d is the distance between the capacitor plates with units of centimeters (cm). T_{eff} is a temporal parameter involving the pulse width of the applied voltage signal; this variable is measured in units of microseconds (us).

In the research by Sandia National Laboratories [1] there was a total of 25 point-plane measurements taken and tabulated for the primary purpose of generating equation (1). Additional analysis of the 25 point-plane measurements has produced equation (2), and unlike equation (1), equation (2) has an additional parameter d, which is a variable representing the distance between capacitor plates. The variable d is measured in centimeters (cm).

$$E_{pTeff}^{0.360+-0.053} \ d^{0.030+-0.077} = 0.230 \ (2)$$

The research of Sandia National Laboratories [1], that produced equation (1) and (2), was designed to supersede equation (3) produced by Eilbert and Lupton [2] for systems assuming infinite area capacitors. Equation (3) is an empirical relationship specifically involving a finite area capacitor.

$$E_{pTeff}^{1/3} \ A^{0.058} = 0.230 \ (3)$$

Another empirical equation (4) specific to a finite area capacitor has been created by (AWRE) at Aldermaston, England [3, 4, 5, 6], and published in References [5, 6].

$$E_{pTeff}^{1/3} \ A^{1/10} = 0.3 \ (4)$$

Equations (1), (2), (3), and (4) are the result of a century of research and investigation into the magnitude of parameters necessary to induce water-dielectric breakdown. Equation (1) and (2) were specifically created for the design and construction of water based electrical insulation systems. Equation (3), and (4) are more general and have been created for other purposes, although have been included in this publication to especially highlight the due diligence of past researchers to document the empirical parameters necessary to induce water-dielectric breakdown.

As a result of the latter due diligence, established in equations (1), (2), (3), and (4), it is now possible to investigate the subsequent reaction ensuing after the occurrence of waterdielectric breakdown. This publication deals with a potential entropic

repercussion of waterdielectric breakdown, and the theorized kinetic energy (E_k) that emerges from ionic alignment.

II. **Theory**: Dielectric breakdown results in the formation of positively charged and negatively charged ions. These positive and negative charges arrange in an alternating fashion connecting the negative capacitor plate to the positive capacitor plate in an attempt to maintain net charge neutrality. The alternating charges form a conductive path, capable of propagating electric current, effectively allowing the discharge of the voltage stored in the capacitor beginning at the instant of dielectric breakdown. This newly established conductive path is well organized, in a relatively linear fashion, such that a low state of entropy occurs. Associated with a low state of entropy is a high molecular kinetic energy (E_k) magnitude, whereas the typical the random motions of particles, in a high state of entropy, tend to cancel each other.

III. **Ionic Alignment and the Resulting Magnitude of Kinetic Energy (E_k)**: Upon the alignment of the positive and negative charged ions, a state of low entropy is established resulting in a quantity of kinetic energy (E_k). This quantity of energy is in addition to the magnitude delivered by the to the magnitude delivered by the current flow (E_{in}) associated with the discharging of the voltage stored in the capacitor.

IV. **Energy Availability**: The latter suggested kinetic energy (E_k) is summated with the input energy (E_{in}) illustrated in equation (5). Equation (5) also leads into the method of testing suggested in section **V**.
$(2H_2O + E_{in} + E_k \rightarrow 2H_2 + O_2)$ (5)
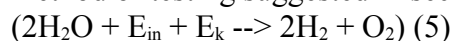
V. **Method of Testing**: A method of testing exists by using standard thermodynamic equipment. The system must be controlled; therefore a bomb calorimeter is to be used to quantity potential exothermic heat energy. The exact quantity of electrical energy input into the system can be measured by standard available electronic testing equipment. The energy resulting from the system (E_{out}) can be measured by quantifying the atomic byproducts of the chemical reaction in equation (5); such quantification can be achieved by standard chemical analysis of the resulting gases.

As a result of having these two parameters (E_{in}), and (E_{out}), a simple arithmetic subtraction calculation can be made to determine the value of (E_k) that would be required to balance the stoichiometry.

VI. **Appendix**:
[1] W.A. Stygar, T.C. Wagoner, H.C. Ives, Z.R. Wallace, V. Anaya, J.P. Corley, M.E. Cuneo, H.C. Harjes, J.A. Lott, G.R. Mowrer, E.A. Puetz, T.A. Thompson, S.E. Tripp, J.P. VanDevender, and J.R. Woodworth, in Physical Review Special Topics – Accelerators and Beams 9, 070401 (2006).
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Re: A Second Look at Dielectrics and ZPE , by Randy on Sunday, September 16, 2007, from 'SeidmanVoltageBreakdown.pdf' available at http://zpenergy.com/modules.php?name=News&file=article&sid=2504

There has been some discussion here of using radio frequency to improve the efficiency of electrolysis. According to Wikipedia, there are two mechanisms involved. One is known as electronic conduction where the current flow in the oscillating field allows the material to be warmed to absorb energy as heat." This is the essence of microwave heating.

The second method involves an actual vibration of a dielectric medium in a radio frequency field. This is called "dielectric heating" and it involves dipole rotation: "Molecular rotation occurs in materials having an electrical dipole moment, which will align themselves in the field by rotating; as the field alternates, the molecules reverse direction and accelerate the motion of individual molecules or atoms."

So, the basic method of "burning seawater" is simply the placement of the seawater in a real physical vibration of radio frequency. This can be achieved by attaching magnets to piezoelectric quantum dots and choosing the dimensions so that they oscillate at radio frequency. This will burn seawater. Also, a manufactured hollow dielectric sphere with attached magnets and the dimensions chosen to vibrate or "oscillate" at radio frequency will cause seawater to combust and continue to burn as long as this real physical vibration continues.

Computer simulation is needed to confirm the results of such a device before it is built so that one's efforts are not wasted. This would save a great deal of time in the development stage. Dielectrics naturally polarize themselves in the presence of an electric field.

There is really no need for fossil fuel at all for powering an internal combustion engine if natural radiant energy is converted to actual radio frequency physical vibrations. Hydrogen on demand through dielectric heating assisted electrolysis may be the basis of a new generation of hydrogen cars. Hydrogen on demand is a real and plausible solution to global warming. We just need to put the plan in place.

What we need is new leadership and common sense science. Randy

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N. K. KHOSLA, S. VENKATACHALAM, Pulsed electrogeneration of bubbles for electroflotation, revised 22 March 1991, JOURNAL OF APPLIED ELECTROCHEMISTRY 21 (t99t) 986-990, from 'Pulsed electrogeneration of

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Fine bubbles of the size required for many processes such as electroflotation can be
generated by electrolysis. A large number of factors such as electrode material,
electrode surface/morphological properties, pH and current density affect the gas
bubble size distribution. This work is aimed at studies on the effect of interrupted
current (pulsed) electrolysis on the generation of gas bubbles. A microcomputer-
controlled current source designed to generate the required pulses is described along
with typical results obtained with this system. It was observed that a decrease in duty
cycle at a given pH and average current density causes an increase in fine sized
bubbles and concomitant increase in bubble flux. A mechanism based on local
potential gradients is proposed to explain this phenomenon.

1. **Introduction**: Much of the experimental work addressing the generation of bubbles
has been concerned with nucleate boiling, gas generation during electrolytic
processing of materials as well as mass transfer/hydrodynamic aspects [1, 2]. A
special consideration however for electro-flotation of mineral fines is the need to gen-
erate fine (< 50/~m) dispersed gas bubbles. Fine par- ticle flotation which is limited
due to the diminishing probability of bubble-particle collisions, can be improved by
increasing the number of fine sized bubbles [3]. Thus, the present work is addressed
towards the generation of small sized bubbles. An important outcome of smaller
bubble size is an increase in bubbleflux (the number of bubbles traversing unit cross-
section per unit time) as well as the number of bubbles per unit volume for a given
volume of gas evolved. These two factors have been shown to have a strong influence
in fine particle flotation [3].

A primary concern in processes such as electroflotation is the generation of fine
bubbles of known size at a known bubble flux [3-7]. Various investigators [3, 4-16]
have studied electrolytic generation of gas bubbles and the physical parameters
governing the bubble size_ The occurrence of increased hydrogen bubble size in the
acidic pH region and that of oxygen in the alkaline region is well known. Bubble
contact angle [9-13], electrode condition (for example, surface roughness) [3, 16, 17],
hydrogen overvoltage [3], current density [3, 9-11, 17], polarization potential [3] and
bubble charge [15, 18] have been suggested by many workers to be among the factors
governing the bubble departure diameter. For a given set of system parameters such as
pH, temperature, reagent concentration and electrode material, the bubble properties
are fixed and it becomes impractical to adjust these parameters to obtain efficient
generation of the desired fine sized bubbles. Thus, there is need for a technique to
generate bubbles of desired bubble size distribution largely independent of the
solution conditions. Pulsed electrolysis can be carried out by using a waveform
generator along with a potentiostat capable of fast slew rates. PC programmable
power supplies usually have low slew rates and may not prove suitable as a pulsed
current source for a capacitive load such as an electrolytic cell in the frequency range
discussed in this work. In this work an IBM/PC controlled pulsed current source

having a high voltage slew rate has been described. The pulsed source can be controlled by appropriate software which can be tailored to an individual application.

2. **Literature review**: The physical process of gas evolution can be divided into three stages: nucleation, growth and detachment. Bubbles nucleate at electrode surfaces from solutions highly supersaturated with product gas and grow by diffusion of dissolved gas to the bubble surface or by coalescence at the electrode with other bubbles [19]. They detach from the electrode when buoyancy or liquid shearing forces pulling the bubbles away overcome the forces binding them.

Surface inhomogeneities such as cracks are generally considered high energy nucleation sites due to the availability of atomic ledges as high energy anchorage points. This phenomenon has been a subject of detailed investigation in nucleate boiling [13], crystallization and solidification [20, 21]. For bubble generation in vacuum or pressure release flotation (analogous to precipitation) the above phenomenon is important. During the electrolysis it is generally agreed that the preferred nucleation sites are at surface inhomogencities such as fissures, cracks and scratches [13, 17] as well as local inhomogeneities resulting in donor-acceptor [3] and low overpotential sites [3, 17]. The dependence of the voltage gradient at the tip of a needle electrode upon its curvature is a well known phenomenon. Occurrence of such sharp points on an electrode and the consequent presence of high local potential gradient sites cannot be ruled out. The importance of the role of voltage gradients towards nucleation is clear from the observation that on wire and mesh electrodes bubble size depends largely on electrode curvature (and thus potential gradient) almost independent of the current density [3, 13]. However, bubble growth rates are not strongly dependent on the diameter of wire electrodes [17].

Various mechanisms have been proposed to determine the bubble departure diameter. Coehn [8] proposed that electrostatic attraction between the bubble and the electrode is instrumental in determining the departure diameter. Stronger attraction requires a larger buoyant force for detachment necessitating larger bubble diameters. Bubble charge studies [18] conducted on platinum anodes at 10-40 kAm -2 tend to support this mechanism. However, electrostatic forces are predominant at current densities (106 A m-2), larger than those encountered in electroflotation [9-11, 14, 16]. Using high speed photography, Glas and Westwater [17] observed that contact angle is not as significant a factor as surface roughness or electrode material in determining the growth rate of bubbles.
A relation between the hydrogen overvoltage and the bubble size has been observed [4].

Increasing bubble size
⟶

Pb   Sn   Cu   Ag   Fe   Ni   W   Pd

⟵
Increasing overvoltage
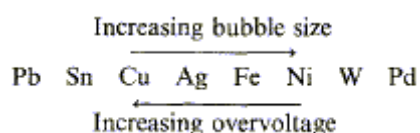
It was also observed that under clean conditions contact angle is dependent on the overvoltage [4].
Thus bubble size and flux in aqueous electrolysis seems to depend upon (a) surface morphological factors including donor acceptor and low overpotential sites and (b)

the inherent overvoltage property of the electrode material.

3. **Experimental details**: The pulsed d.c. source was designed as a circuit board to be interfaced to a microcomputer giving the system flexibility in its configuration as a constant current/voltage source (Fig. 1). User interface is more versatile due to software control of the equipment. The circuit is mapped on the I/0 bus of the microcomputer using the switch S-1 and address decoder (DEC). The micro-computer sends data to the digital to analog converter (DA) through buffers (BUF). The timer (TIM) is programmed to generate timing pulses to update DA under the direct memory access (DMA) mode of the microcomputer. Thus, the requisite waveform is generated by the computer in the background while the computer is simultaneously available for computational and other control work. The DA output is fed to the power amplifier (PA). The high current supply (PS) is capable of providing a peak current of 5 A. The use of a 12-bit DA operating under direct memory access of an IBM/PC operating at 8 MHz offers a resolution of 0.024% for current (maximum current of 4A) and minimum pulse cycle time of 3.2ms with 0.5% resolution.

Fig. 1. Schematic block diagram of computer controlled current source.
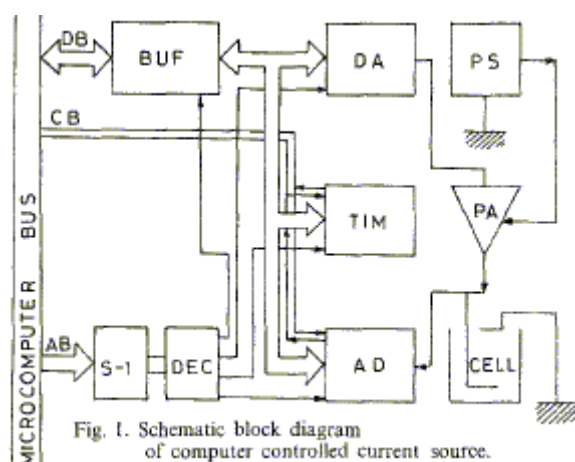
Software was developed for the generation of pulses (Fig. 2) of variable duty cycle at a selected average current. The average current ($i_{av} = id/lO0$) was com- puted from the area under the curve (shaded) and the duty cycle (d) as the percentage of cycle time (icy) during which the current flows through the celt. Thus, for a square wave, the duty cycle is 50%. The software was designed to generate a high peak current nucleation pulse at the start of each cycle. The contribution of the nucleation pulse to the total energy was negligible (< 0.2%).

Fig. 2. Pulse waveshape.
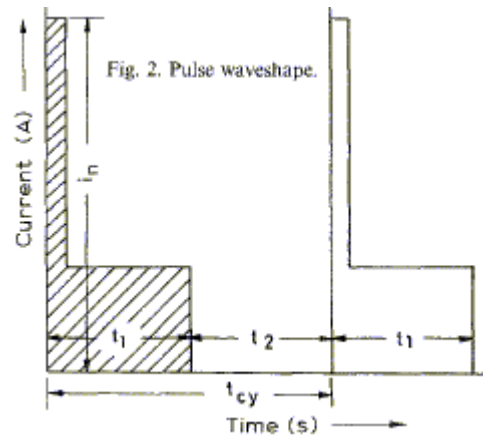
Electrolysis was carried out in a quartz cell mounted on a stand backlit with a bright light source. A shuttered video camera (1/1000 shutter speed) fitted with microscope objective 50X to 300X) was used to record bubble dimensions on a video recorder. A video graphic printer was used to print the picture frames for subsequent bubble size measurement. The quartz cell was designed to circulate the electrolyte (1 M Na_2SO_4). The electrolyte (pH 10.0) was circulated by means of peristaltic pump and a large external reservoir of the electrolyte was maintained to ensure minimal pH change. Electrolyte circulation also facilitated removal of the generated gases.

The platinum plate cathode (1 cm^2) was carefully polished and thoroughly degreased. Care was taken to exclude surface active contaminants. The external glass reservoir for the electrolyte was always kept covered to prevent air-borne contamination. The bubbles were observed between 2 to 2.5 mm verticall) above the electrode.

Experiments were carried out for the electrogeneration of hydrogen bubbles with a pulsed current having a step waveform (Fig. 2). The solutions were electrolysed with an average current density ranging from 0.5 to 2.0Am^{-2} and duty cycle ranging from 5 to 100%. A cycle time of 30 ms was used and a recording period of 5min was used at each experimental condition. Bubble size distribution was computed by examining at least 150-200 bubbles in sharp focus.

4. **Results**: Initial experimental work on electrolysis with rectangular waveform having a leading high energy nucleation pulse, showed no significant difference from the electrolysis carried out without the leading nucleation pulse. Thus all subsequent work was conducted without a leading nucleation pulse.

The results obtained for bubble size distribution as a function of current density and duty cycle are presented in Figs 3-6. Bubble diameters were computed from the video prints by taking the average of bubbles found in sharp focus. It can be seen from Figs 3-6 that at a given average current density, a decrease in duty cycle results in an increase of bubbles of smaller diameter. This is expected to significantly increase the bubble flux.
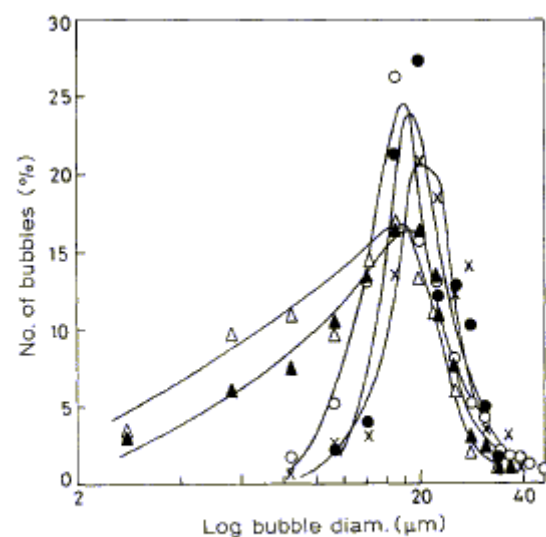
Fig. 3. Bubble size distribution at average current density of $2 \, A \, m^{-2}$ at pH 10.0 and duty cycles of (%): 100 (●), 50 (×), 25 (○), 10 (▲) and 5 (△).
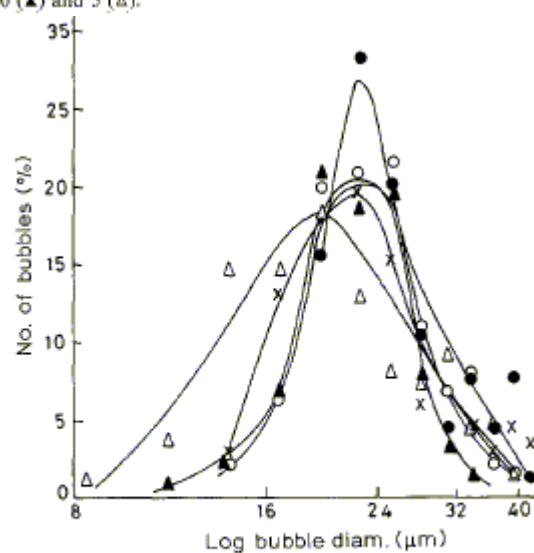

Fig. 4. Bubble size distribution at average current density of $1 \, A \, m^{-2}$ at pH 10.0 and duty cycles of (%): 100 (●), 50 (×), 25 (○), 10 (▲) and 5 (△).
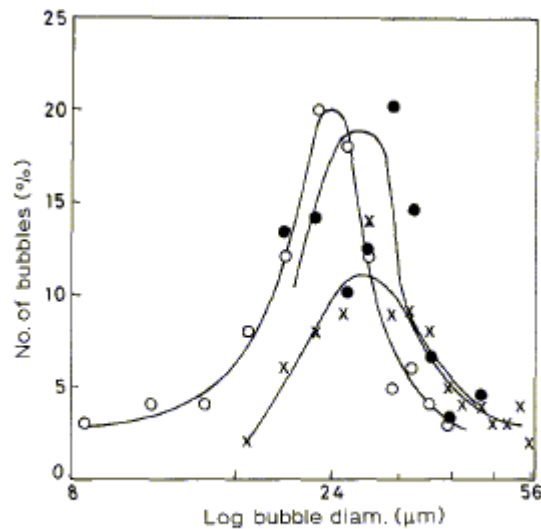
Fig. 5. Bubble size distribution at average current density of 0.5 A m⁻² at pH 10.0 and duty cycles of (%): 50 (×), 25 (●) and 10 (○).
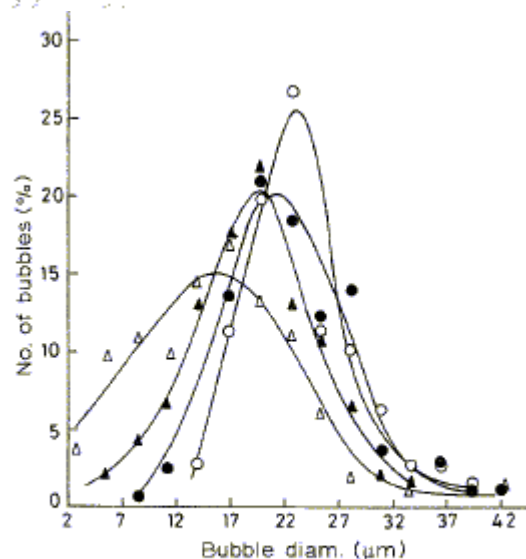

Fig. 6. Effect of sodium dodecyl sulphonate (SDS) on bubble size distribution. Average current density 2 A m⁻², pH 10. Duty cycle 50%: (○) without SDS, (●) with 10⁻⁵ M SDS; duty cycle 5%: (△) without SDS, (▲) with SDS.

5. **Discussion**: The chief effect of pulsing observed during electrolysis is the occurrence of an increased number of small sized (< 10-15um) bubbles (Figs 3-5). Thus at low duty cycle, higher current during the 'on' time forces a larger number of bubbles to nucleate and grow resulting in an increased bubble flux. The requirement of high current density for nucleation and growth has been observed by Brandon [18] to be due to diffusion of dissolved gas away from the electrode. Thus an induction time is observed for bubble nucleation. The induction time is the time required to attain the necessary supersaturation of the electrolyte with respect to the dissolved gas at the electrode surface.

Thus bubbles, once nucleated, require a relatively high current density for sustained growth. Studies with platinum electrodes have shown that bubble detachment is greatly facilitated by the interruption of current as well as by a reduction in the potential [18].

Pulsed electrolysis provides ample opportunity for the bubbles to dislodge since the current is interrupted after each cycle.

To study the effect of the presence of surface active reagents during pulsed electrolysis, experiments were performed in the presence of 1 x 10^{-5}M sodium dodecylsulphonate, the concentration chosen being typical for froth flotation systems. Results plotted in Fig. 6 show that the effect of surfactant at high duty cycle (50%), as well as low duty cycle (5%), is not significant. An important effect of surfactant, namely the modification of the bubble-electrode contact angle has been shown to have very little effect in the case of hydrogen bubbles [17].

The following interpretation of the mechanisms is suggested for the nucleation and growth of bubbles during pulsed electrolysis.

5.1. Nucleation : Potential nucleation sites on the electrode surface, such as scratch edges and cavities, possess a wide variation in energy. The higher voltage required for higher instantaneous currents under pulsed con&tions largely offsets the effect of local potential gradients and also results in a high degree of local gas supersaturation, thus resulting in homogeneous nucleation.
At short times i.e. t < 10ms, bubbles grow by acting as sinks for the previously generated dissolved gas in the supersaturated solution adjacent to the electrode [18]. Such growth is hydrodynamically controlled by liquid inertia.

5.2. Growth and detachment : Growth is driven by the high internal excess pressure inside the bubble which is related to the surface of liquid-vapour interface. From 10ms onwards, diffusion of dissolved gas to the bubble contact perimeter becomes rate controlling [22]. Under pulsed conditions of low duty cycle, growth is either entirely inertial or inertial and diffusion controlled. Under conditions of low current density (high duty cycle), while most nuclei may grow in a similar manner during the inertial phase, only nuclei at the lowest overpotential sites grow during the diffusion control phase due to concentration polarization. Frequent interruptions in current during pulsed electrolysis also promote bubble detachment. Bubble size increase by coalescence at the electrode [1, 19], as well as by coalescence in bulk, results in further increase in bubble diameter.

6. **Conclusions**:
1. Pulsed electrolysis can be used to regulate bubble size independent of the average current density and other such parameters.
2. During water electrolysis, increase in current density results in finer bubbles which may find application in processes such as electroflotation.

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BOB BOYCE electrolyzer: (page created at November 2007 Update)

BOB BOYCE, Hydroxy Adventurer: :
http://www.freeenergynews.com/index.html

From the Trenches -- **One Man's Experience with Free Energy**

Bob Boyce tells about how **he built a carburetor using hydrogen and oxygen split using proper frequencies**
From: "Bob Boyce" To: sterlingda@greaterthings.com Sent: October 07, 2002 8:38 PM

… into hydrogen research where I was building **small electrolyzer** type units that used **distilled wate**r mixed with an electrolyte and I would resonate the plates for optimal conversion efficiency. I discovered that with the right frequencies, I was able

to generate monoatomic hydrogen and oxygen, which when recombined, **produces about 4 times the energy output of normal diatomic hydrogen and oxygen molecules** since the process of combustion does not have to break apart the molecules first before recombining into water vapor. Diatomic hydrogen requires about 4% to air to produce the same power as gasoline, while monoatomic requires slightly less than 1% to air for the same power. The only drawback was storage at pressure causes the monoatoms to start joining into diatomic pairs, and the mixture weakens, so it must be produced on-demand and consumed right away.

I used modified LP carbs on the boat engines to deal with using vapor fuel. I even converted an old chrysler with a slant six engine to run on the hydrogen setup and we tested it in the shop.

…It requires a lot of plates made of 316 stainless so it will withstand the more exotic electrolytes that are more efficient, a plastic box to contain the plates, 1/8" spacers to keep the rows of plates apart, the electrolyte, and an adjustable frequency modified psuedo-sinewave inverter can be used for the drive electronics. I used 61 of the 6" square plates to give a large surface area and scoured the surfaces with coarse sandpaper in an "X" pattern to give a fine crosshatch grain to add fine sharp points. I found this improved efficiency as well. The top of the box had two threaded ports, a small one for injecting replacement distilled water, and a larger one for extracting the vapor. Under the top cover sitting on top of the plates I cut a piece of plastic matting to prevent sloshing.

It's very important to keep the total electrolyte level at or below the tops of the plates to prevent voltage from bypassing any cells and creating excessive water vapor. I placed a 5 PSI cutoff switch in a tee on the water injection port that shut the drive electronics down when the pressure in the unit hit 5 PSI. This allowed the unit to be able to supply on demand without building up too much pressure in low demand situations. I built a bubbler from a large home cartridge type water filter housing to prevent any backfire from traveling back up the fuel feed to the unit. Without some sort of bubbler you run the risk of the unit exploding if a flame front from the engine flows back to it. I have seen copper mesh screens designed for welding gasses offered for use on plans I seen years later online for similar devices, but hydrogen has a much higher flame propagation speed so the copper mesh may not be reliable enough to risk using.

Place the unit close to the engine to limit the amount of monoatom loss to diatomic recombination and feed the fuel vapor to the vapor portion of an LP carb system. The carb will have to be modified for hydrogen use (different mixture rate than propane) and adjusted with the system running for best performance. The best electrolytes I found to use were sodium hydroxide and potassium hydroxide. While sodium hydroxide works well, it's much easier to get (red devil lye in most department stores) than the much harder to get but slightly more efficient potassium hydroxide. Whatever you do, be very careful of materials! Make absolutely sure they are compatible with the electrolyte used. Never use glass containers for mixing or storing potassium hydroxide!

I was too tired to respond last night when I first read that, but it did make me chuckle. It doesn't bother me in the least, especially when it's from someone that makes it their lifes work to be a detractor against anything and everything different. I stopped going to most of the public forums because of people like that trying to egg me on.

To group me in with people that were, or are, out to run cars on water, is actually kinda funny, because that was never my goal at all. My goal never was to seek publicity or fame, far from it, I wanted to be left alone. Now, I just want to try to educate people on the benefits of properly constructed series cells, and how to properly condition to get an efficient catalytic reaction. Let these people take what they learn and apply it in their own ways.

I did run an older carburated car, but it was as a test jig, up on jack stands, not driving on the road. I regretted moving to that phase ever since. While I was running those small marine race engines on straight DC series cells, I never had any problems with outside interference. Nobody seemed to care. It wasn't until after I discovered the resonance reaction by accident, then started the resonance research on the car engine, that someone apparently took a keen interest in what I was doing.

Maybe some day, the resonant reaction effect will be fully understood. Until then, more research still needs to be done to continue to improve upon the hardware to make the reaction more predictable and stable. I am working towards continuing that research.
Bob // 2H+O+Spark=BOOM!

And a second post in the same thread:

When I discovered the resonance reaction, I was running a pair of small water-jet powered race boats off of hydroxy on demand systems. Both boats had identical systems, which were comprised of 2 pairs of 6-cell stacks. Both used a pair of dedicated propane carbs with 1" vapor fuel lines coming from the bubblers.

Each cell in the stack was 4 parallel cells containing 3 cathode plates and 2 anode plates, with 1/8" (3 mm) spacing. The cell stacks were 18" square, so plate surface are for these was massive. It was essentially a brute force system, although I was taking advantage of the series cell and the efficiency boost of the catalytic electrolyte. I had discovered this design in my attempts to improve efficiency of the basic electrolyser, and it turned out to be much more efficient than the electrolysers of the day in all of the literature I could find in the libraries.

I had modified the battery system to use marine deep cycle batteries, with a heavy solenoid to engage and disengage power to each unit. Power draw for each on a full charge was about 350 amps at the 12 volts. Battery run time needed was only in the minutes, so I just changed batteries before each heat, and kept batteries on charge during the event.

The resonance effect happened when the alternator on one of these marine engines failed (rectifier shorted),and superimposed an AC waveform onto the DC power bus. The effect was limited to a particular RPM range, and was as if someone kicked in an

afterburner, it made such a difference in engine horsepower. After identifying the cause of this unusual burst of horsepower, I set out to find ways to intentionally create this reaction. The rest is history as they say.

The auto engine I ran was using a 60 series cell unit operating from a resonance generator and driver. At resonance, it took about 55-60 watts to generate enough hydroxy gas to just idle the engine, and about 160 watts to run the engine where the speedometer read 60 MPH in gear. This was with the car rear end up on jack stands, so no vehicle load at all on the engine. The engine was a chrysler 170 CID slant six (inline 6 cylinder) lean burn system with a carb and a distributor type ignition. I used a propane adapter plate on that engine to adapt it to vapor fuel.

In answer to the question on gas volume, yes, the volume increased dramatically during resonance, while current draw went way down. I think the limiting factor on those early 60 cell designs was the amount of gas that could evolve out of solution and come out of the chamber given the plate area being blocked by the bubbles. It was as if the water was boiling during resonance, and the bubbles came out of solution, not just at the plate surfaces. I endeavored to find solutions to stabilize and further improve reaction efficiency. Unfortunately, I was unable to continue my research after it was so rudely interrupted.
Bob // 2H+O+Spark=BOOM!

And:

I tried straight AC, but that seemed to destroy the catalytic surface layers on conditioned plates. Using AC to condition produced no catalytic layer at all. It did not seem to work well for regular electrolysis as well. I did not exhaust all possibilities of course, but I did try enough to discourage me from heading in that direction.
Bob // 2H+O+Spark=BOOM!

(to link the article above use: #BBOY)

LAST UPDATE about BOB BOYCE, on January 8, 2007, at:
http://pesn.com/2007/01/08/9500445_Bob_Boyce_Electrolyzer_Plans/

Bob Boyce's Electrolyzer Plans Available to All, by Michael Couch, for Pure Energy Systems News

A system for high-efficiency electrolysis that involves the alleged production of monatomic hydrogen, which has highly unusual and effective properties in accentuating mileage.

Bob Boyce was winning races in mini power boats down in Florida, using Hydrogen for fuel.

... One day he started noticing that at a certain RPM his power kicked up suddenly; as though he had a nitro boost or something.

... It turned out that one of the diodes in his Alternator had failed and was pumping an AC into his electrolyzer. When that certain rpm was reached the output from the electrolyzer suddenly increased.

... he found that when the frequencies kicked in he was producing much more monatomic hydrogen. He went on to perfect his electrolysis to the point that it generates a large volume of gas and mostly monatomic hydrogen.

... The electrolyzer cell itself is either 61 plates for torches and small motors; or 81 plates for larger gensets, ...

... he makes his own PWM3 Controller for Hydroxy torches and gensets. They aren't for sale but you can find the info in files on the Web. The controller uses three 556 Dual 555 timers. Each dual uses one 555 for pulse width and the other for frequency, generating 42,800; 21,400; and 10,700 cps respectively.

These frequencies drive the 25% modulation on top of the pulsed DC carrier "bias" current. The DC Bias voltage is input at the Toroidal Transformer's inputs which gets filtered into DC before reaching the plates of his electrolyzer with the AC Voltage riding on it.

... Bob says this causes a magnetic circuit through the center of the plates in the electrolyzer. The result of all these refinements is that when the water is split, the bias voltage keeps it from recombining, and H molecules have plenty of electrons to absorb, preventing the two Hs from joining. Thus the extra large volume of monatomic Hydrogen molecules.

... The 6"x6" Plates are spaced 3mm apart exactly and sealed on the sides and bottom. Water levels must be maintained in each cell. Bob's has a supply pipe with holes drilled along it for each cell.

... Bob says, you will get another area of separation in the water between the cells as

well as on the plates.

... Mr. Boyce is a true humanitarian and has placed his system in the public domain in the hopes of helping the planet reverse global warming, end oil wars, and deliver free energy to the poor peoples of the world.

(to link the article above use: #BOB1)

A message from Bob Boyce: Water is Life

Water IS life... and so much more... So, why all of the excitment about common H2O?

Water is **the glue that bonds all of life together**. Without it we would not exist. With it, not only do we survive, but we may have a solution to our growing global energy problem.

How so you may ask? **Water can be transformed into a perfect energy supply**. It is abundant, non-polluting, and eternal in nature. You split it efficiently and combust it efficiently. After harvesting that released energy, **you again have H2O as the by-product**. Hard to beat!

Will the greed of big oil and big business ever be satisfied enough that they can stop destroying this planet? I seriously doubt it.

There is energy aplenty in the wind, the sun, in flowing rivers and waterfalls... **Even in a cup of water, latent there, just waiting for the adventurous... Go for it!**

(to link the article above use: #BOB11)

-- <u>Return to the top</u>

Bob BOYCE full details, diagrams and electronic to reproduce his superefficient electrolyser, page 10 to 29 from 'D9.pdf' available at <u>http://www.panaceauniversity.org/D9.pdf</u>

Short extracts: Bob boyce is easily the most experienced and knowledgeable series-cell designer. He achieves a massively increased gas production rate by using an electrolyser with a large number of cells in it. Bod uses one hundred cells (101 plates) in his electrolyser. Units with just 60 cells are inclined more to brute-force DC electrolysis, tending to mask the gains produced by pulsing. As there is a voltage drop across each stainless steel electrode plate, it is usual to allow about 2 volts across each cell. However, Bob finds that **for high-efficiency pulsing, the optimum voltage per cell is about 1.5 volts**. This means that a voltage of about 1.5 x 100 = 150 volts is needed to power its to its maximum output.

To get this higher voltage, Bob uses a 110 Volt inverter.... The output from the inverter

is converted from Alternating Current to pulsing Direct Current by passing the output through a 4 diodes bridge rectifier.

... An electrolyser with a hundred cells, built in this style will have 101 metal plates and 10 separate bodies of electrolyte. In spite of these large numbers, the size of the overall unit does not have to be excessive. The spacing between the plates is set to, say, 3mm (1/8 inch) and the plate thickness might be 16 gauge (0.7 to 1 mm), so the width of any cell is not great, being roughly the same size as a vehicle battery.

The size of the plates may be determined by the space available in the engine compartment. It there is a large amount of spare space, then the plate size may be selected by allowing from two to four square inches of area on both sides of each plate, per ampere of current. Each side of every plate is in a different electrolysis cell so a 6 inch by 6 inch plate will have 36 square inches on each face and so would carry between 36/4 = 9 to 18 amps of current. The choice of current density is made by the builder of the electrolyser and it will be influenced by the size and cost of the inverter chosen to drive the electrolyser and the allowable current draw from the battery.

A 600 watt electrolyser would have an absolute maximum output current capacity of 600W/ 110V= 5.45 Amps. The inverter will run much better if not used at its maximum load all the time, so perhaps a current of 4 Am;s might be used as the target current. At four square inches per Amp, that indicates a plate area of 16 square inches (103 square centimetres), say 5" x 3.5" for the part of hte plate below the surface of the electrolyte. As the plates need to project above the surface of the electrolyte, a plate size of 5" x 4.5" (125mm x 115mm) would be practical.

If the inverter is 80% efficient, then if you feed 100 watts of power into it, only 80 watts of electrical energy comes out of it. That lost 20 watts is 25% of the actual output from the unit. More current goes into it than comes out of it (the remainder being wasted as heat inside the inverter). The power taken from the battery would then be 4A x 110V= 440W plus 25% = 550Watts. The current draw from the battery would be 550 Watts/ 13.8V, or about 40 Amps. Bob Boyce recommends a 6" x 6" or larger plate size, but the size and shape of the spare space in the engine compartment would be a major consideration. It is essential that every item which contains hydroxy gas (MDG nov07: if not build in a explosion-proof material like thick metal, William RHODES afirm in his patent and paper, 1962, that hydroxy is safely contained in 16 Gauge thick iron pipes, and can't explode in that situation) is located in the engine compartment. Under no circumstances should the electrolyser or bubbler be located in the passenger area of the vehicle, even if pop-off caps are provided and a second protective outer housing is provided, as the explosive force is so great that permanent hearing damage would be a serious danger. ...
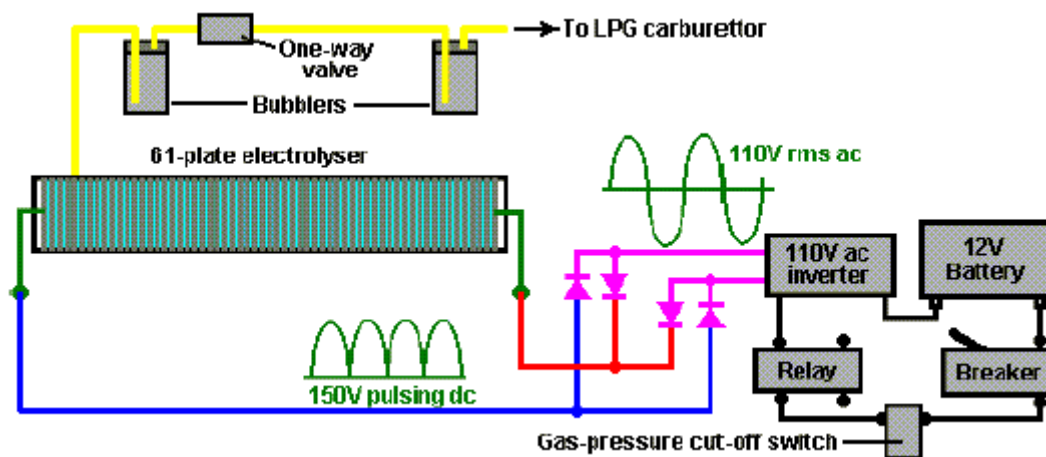
The one way valve shown between the two bubblers, is to prevent the water in the bubbler mounted beside the electrolyser, being driven into the electrolyser in the event of an explosion in the bubbler mounted beside the engine. The overall operation of this style of electrolyser is very much like taking gas from a pressurised cylinder via a pressure-regulator valve. The electrolyser has a pressure switch disconnects the electrical supply from the electrolyser when the gas pressure in the electrolyser reaches five pounds per square inch: see diagram.

... The preparation of the plates is one most important steps in producing an electrolyser which works well. This is a long task, but it is vital that it is not skimped or hurried in any way. Surprisingly, brand new shiny stainless steel is not particularly suitable for use in an electrolyser and it needs to receive careful treatment and preparation before it will produce the expected level of gas output.

The first step is to treat both surfaces of every plate to encourage gas bubbles to break away from the surface of the plate. This could be done by grit blasting, but if that method is chosen, great care must be taken that the grit used does not contaminate the plates. Stainless steel plates are not cheap and if you get grit blasting wrong, then the plates will be useless as far as electrolysis is concerned. A safe method which Bob much prefers is to score the plate surface with coarse sandpaper. This is done in two different directions to produce a cross-hatch pattern. This produces microscopic sharp peaks and valleys on the surface of the plate and those sharp points and ridges are ideal for helping bubbles to form and break free of the plate. See drawings.

Bob uses a 6 inch x 48 inch belt sander which is great for preparing the plates and the uses it all the time now with 60 or 80 grit. Always wear rubber gloves when handling the plates to avoid getting finger marks on the plates. Wearing these gloves is very important as the plates must be kept as clean and as grease-free as possible, ready for the next stages of their preparation.

Any particles created by the sanding process should now be washed off the plates. This can be done with clean tap water (not city water though, due to all the chlorine and other chemicals added), but only use distilled water for the final rinse.

A point which is often missed by people constructing electrolysers is the fact that electrolysis is not just an electrical process, but it is also **a magnetic process**. It is

important for maximum operating efficiency that the plates are aligned magnetically. This will not be the case when the plates arrive from the supplier as each plaate will have random magnetic characteristics. The easiest way to deal with this situation is to give the plates a mild magnetic orientation. This can be done quite simply by wrapping a few turns of wire around the stack of plates and passing some brief pulses of DC current through the wire.
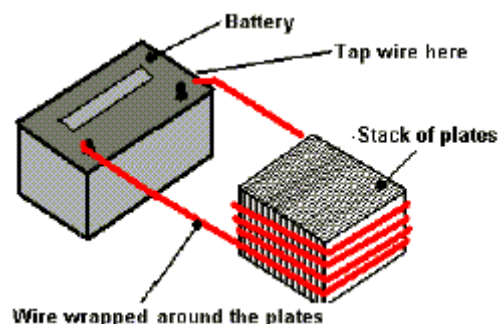
Obviously, the plates need to be kept in the same direction when being slotted into the case. The next step in the preparation process is to make up a weak solution of potassium hydroxide. This is done by adding small amounts of the potassium hydroxide to water held in a container. The container must not be glass as that is not a suitable material in which to mix the electrolyte.

Potassium hydroxide, also called KHO or Caustic Potash, can be bought in small quantities from soap making supply outlets... Always store in a sturdy air-tight container which is clearly labelled DANGER - Potassium Hydroxide. Keep the container in a safe place, where it can't be reached by children, ... When mixing the electrolyte, **never** use warm water. The water should be cool because the chemical reaction between the water and the KOH generates a good deal of heat ...

Plate Cleansing: Prepare a 5% to 10% (by weigth) KOH solution and let it cool down. As mentioned before, never handle the plates with your bare hands, but always use clean rubber gloves. Put the sanded and rinses plates into the slots in the electrolyser case, keeping them all the same way round so that they remain magnetically matched. Fill the elctrolyser with the KOH solution until the plates are just covered.

A voltage is now applied across the whole set of plates by attaching the leads to the outermist two plates. This voltage should be at least 2 volts per cell, but it should not exceed 2.5 volts per cell. Maintain this voltage across the set of plates for several hours at a time. The current is likely to be 4 amps or more. As this process continues, the boiling action will loosen particles from the pores and surfaces of the metal. This process produces hydroxy gas, so it is very important that the gas is not allowed to collect anywhere indoors (such as on ceilings).

A fter several hours, disconnect the electrical supply and pour the electrolyte solution into a container. Rinse out the cells thoroughly with distilled water. Filter the dilute KOH solution through paper towels or coffee filters to remove the particles. Pour the dilute solution back into the electrolyser and repeat this cleaning process. You may

have to repeat the electrolysis and rising process many times before the plates stop putting out particles into the solution. If you wish, you can use a new KOH solution each time you cleanse, but please realise that you can go through a lot of solution just in this cleaning stage if you choose to do it that way. When cleansing is finished (typically 3 days of cleansing), do a final rinse with clean distilled water.

Plate Conditioning: Using the same concentration of solution as in cleansing, fill the electrolyser with dilute solution up to 1/2" below the tops of the plates. Do not overfill the cells. Apply about 2 volts per cell and allow the unit to run. Remember that very good ventilation is essential during this process. The cells may overflow, but this is ok for now. As water is consumed, the levels will drop. Once the cells stabilise with the liquid level at the plate tops or just below, monitor the current draw. If the current draw is fairly stable, continue with this conditioning phase continuously for two to three days, adding just enough distilled water to replace what is consumed. If the solution changes colour or develops a layer of crud on the surface of the electrolyte, then the cell stack needs more cleansing stages. Do not allow the cells to overfill and overflow at this point. After two to three days of run time, pour out the dilute KOH solution and rinse out the electrolyser thoroughly with distilled water.


... A serious issue with an electrolyser of this type is **dealing with water loss**. As the plates have to be spaced closely together and since the electrolyte between the cell is effectively isolated from the electrolyte in the other cells, driving a mile down the raod is liable to lower the water level by half an inch (say, one cemntimeter). It is essential to keep replacing the water which is used. ...

Simple electronics procide the answer to sensing the level of the electrolyte, and a windscreen-washer water pump can be used to inject the additional water. ... Also Bob recommends cutting the slots which hold the plates, 3 thousands of an inch (0.003" or 0.075mm) larger than the actual thickness of the metal plates. This effectively blocks electrical leakage between adjacent cells but does allow a very gradual migration of water between the cells to help maintain an evan water surface across the cell. The water-level sensor can be just one stiff stainless steel wire run down each side of any cell. These wires should be insulated to make sure that they do not short-circuit to either (or both) of the plates on each side of them. They should be set so that their tips are at the intended surface level of the electrolyte.

If the electrolyte level drops below the tip of the wire sensors, then the resistance between the wires wil fall, indicating that more water is needed. This scan switch the water pump on, which will raise the water level until the electrolyte level reaches the tip of the wire again. A possible circuit for doing that is shown here:
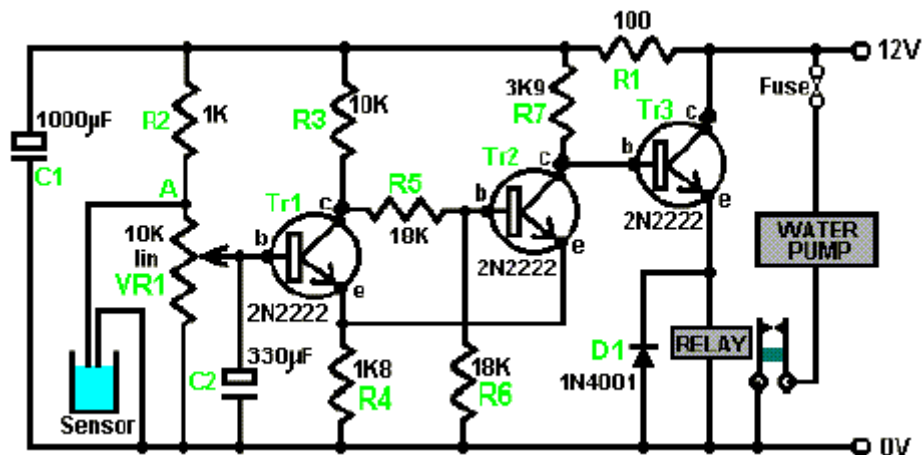
When the level of the electrolyte falls, the sensor wires come clear of the liquid and the voltage at point 'A' rises. Provided that this situation remains for a second or two, capacitor C2 charges up and the voltage on the base of transistor Tr1 rises, causing it to switch on. Transistors Tr1 and Tr2 are wired as a Schmitt trigger, so transistor Tr2 changes state rapidly, raising the voltage at its collector, and causing transistor Tr3 to power the relay on. The relay contacts switch the water pump on, which raises the level of the electrolyte until it reaches the sensor wires again. This flips the circuit back into its standby state, powering down the water pump. Resistor R1 feeds capacitor C1 to reduce the effects of variations of voltage reaching the sensor circuit. The components shown here are not critical and there must be at least twenty alternative designs for this circuit. A possible physical layout for this circuit is shown here: See printable diagrams on original pdf file.
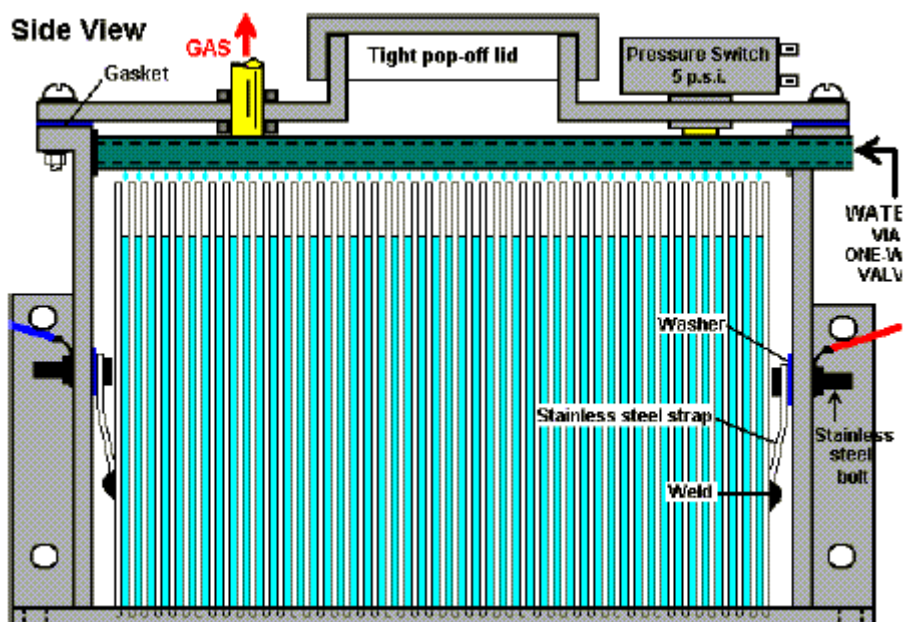
With an electrolyser of this kind, with narrow gaps between sizeable plates, **shifting bubbles off the plates is important**. An importnat technique is to alter the frequency of the inverter so that it makes the cell resonate. This can be done fairly easily with many inverters as all it entails is replacing one capacitor with one of a lower value and

relacing one resistor with a variable resistor. **Bob Boyce found that the rate of electrolysis increased considerably when the cell was resonated**, and the frequency of HIS cell was in the 600 to 900 Hz range. If you find this hard to understand, then may I suggest that you read through the step by step electronics tutorials which accompany this document. They are designed to be easy for a total beginner to understand and can take you to the level where you can read circuit diagrams, design and guild prototypes.

Customs Electronics: THe objective is to run a vehicle engine with water as the only fuel. This is not an easy thing to do as the volume of gas needed is very high indeed, especially since internal combustion engines have an efficiency in the range of 25% to 40% typically. Also, in America, vehicle engine sizes have grown and grown with mpg figures, dropping and dropping.

One Japanese inventor has just been granted a license to test out his new design of engine on public roads in Japan. His method is to use a tank of compressed hydrogen gas and a tank of water. The hydrogen is injected into the cylinder and ignited. At the moment of ignition, a fine spray of tiny water dropplets is injected into the cylinder. The heat of the ignited hydrogen, converts the water droplets instantly into 'flash steam' with a much larger volume, and the pressure of the steam drives the piston down on it's power stroke. While that system is very effective, allowing high speed driving and considerable range on one tank of hydrogen gas, it is not a true Hydrogen-On-Demand system where water is the only fuel.

Michael Farady investigated electrolysis and established the facts and figures for straight DC electrolysis of water. While his meticulous work is to be admired, his results have led to a misconception on the part of the engineers of today. They look at Faraday's results, and conclude that it is physically impossible to run a car on water alone as it would take too much current to produce the necessary amount of electrolysis gas to power the engine. That is perfectly true if the electrolysis is done the way Faraday did it. It is not true if other methods are used.

Bob Boyce used to race power boats in competitions. He charged lead-acid batteries in his workshop, and then used heavy current from the batteries to produce large amounts of hydrogen in his boats, producing high speed performance, running his engines on the hydrogen/oxygen gas mix produced by electrolysis of water. That was not Hydrogen-On-Demand as the batteries were charged on land in the periods in-between the heats in the races.

One day Bob discovered that his system was giving much higher power, boosting the boat performance in a most satisfactory way. On investigation he discovered that one of the diodes in his equipment had failed and that fed a very jagged voltage waveform to his electrolyser. This had two effects. Firstly, the volume of gas produced was increased. Secondly, **the nature of the gas was different**. With normal DC electrolysis powered by an ordinary car battery, the hydrogen gas produced was mainly in the form of two linked hydrogen atoms, called 'diatomic' hydrogen. With his jagged waveform, a good deal of the hydrogen produced was in separate single hydrogen atoms, called 'monatomic' hydrogen, and that form of hydrogen produces far more power when burnt.

Clearly, Bob was onto a good thing, so he investigated it further. He modified his system and built a cell as described above, with dozens of plates. This needed a higher voltage to operate, so Bob used a standard 'inverter' which is a battery powered device which generates an imitation of mains voltage and wavefoem. Bob modified the inverter, raising the rate at which it operated from 60 cycles per second to an adjustable range in the 600 to 800 cycles per second region. He also used some diodes to convert the output of the inverted from Alternating Current to Direct Current pulses of about 150 Volts. This was such a success that Bob was able to run his car on the electrolysis gas produced by the electrical power from the car's own alternator. He jacked the wheels clear of the floor and ran the engine in gear with the speedometer showing 60 mph for extended periods. That was a practical example of what most engineers, even today, believe is impossible.

Bob is not alone in this, Henry Puharich did it as well and the waveform he used is shown in his patent which is one of the other documents in this set. Henry's waveform looks like this:
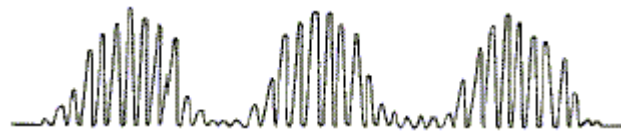
Stanley Meyer also ran his Volkswagen car for four years on the gas produced by splitting water. Stan broke down ordinary tap water using very little current and a waveform like this:

Stephen Meyer (Stan's twin brother) has a current patent (xogen.com) for a water-splitter system which uses a waveform which is shaped like this:
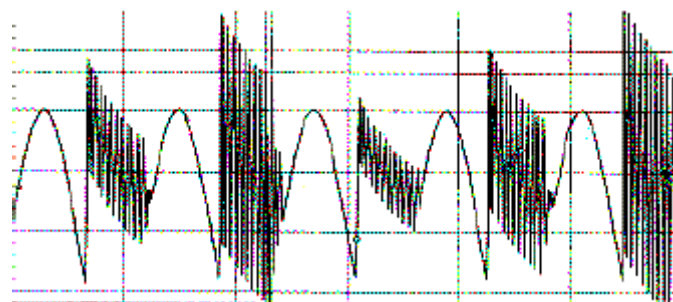
It is quite clear from this, that Faraday's excellent work does not cover every method of separating water into a mixture of gases, and that a very much higher volume of gas can be released if Faraday's DC current is replaced by a complex pulsed DC waveform.

Bob also points out that his 316-grade stainless steel electrodes contain both molybdenum and nickel which act as catalysts which promote the breakdown of water into gases.

Bob has further advanced his electrolysis system and has very kindly freely shared his development in the form of an open-source public disclosure, which he has no intention of patenting and which he wishes to prevent others from patenting by his prior public disclosure of the information. So, please note that **Bob publicly disclosed this information early in 2006 and any subsequent patent of it will be wholly ineffective as it cannot be enforced due to prior public disclosure**.

Bob's current system uses three adjustable oscillations. Each oscillator has its own adjustable 'gate' which rhythmically passes the signal along, or briefly blocks it. The three signals are then added together to produce a rich waveform which is then boosted and passed to his electrolysis cell:
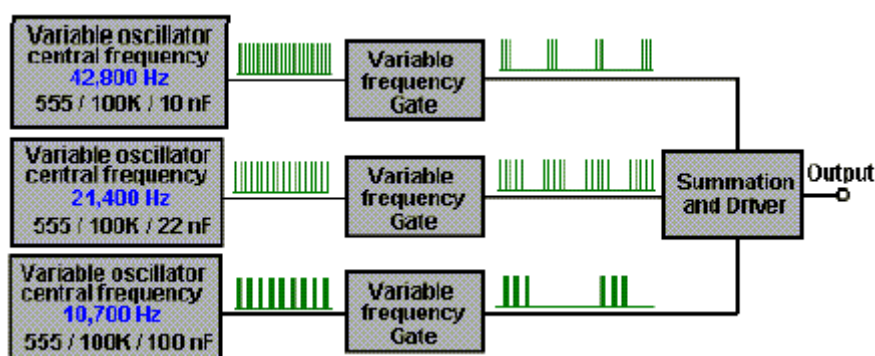
Because both the oscillator frequency and the gating frequency are variable for each of the three oscillators, the resulting output waveform can have many different shapes, most of which will have a rolling cyclic repeating pattern.

The summation and driver section could have many different implementations. Bob has chosen to opt for the same method as Stan Meyer used, where the signal power level is boosted by an FET transistor stage and then a torroidal transformer is used to integrate the signals. It should be remarked here, that if a transformer is used, then with frequencies as high as these, the transformer core cannot be made from iron laminations in the same way that mains transformers are constructed. That style of construction is good for the low mains frequency of 50Hz or 60Hz, but the core (the transformer 'yoke') cannot handle high frequencies. Stan Meyer used a torroidal ferrite ring for his transformer. Bob aims at having the complex signal from his generator added to the DC current through his cell with the signal set at about 25% of the DC voltage.

Bob does not specify exactly how the electrical drive is connected to the cell, but as far as I can see, if the signal is to be added to a standing DC component, there are three ways that it could be done: see original pdf file for diagrams ...

Of these, option 1 is not attractive in that it requires a blocking capacitor to avoid the secondary of the transformer from placing an unnecessary heavy load on the battery.

Options 2 and 3 are very similar with not much to choose between them.

In either of these cases, the secondary windings needs to be heavy-duty wire to carry the cell current, which in Bob's case will be anything from ten to thirty amps. Also, to avoid building up too much resistance in the secondary, the number of turns will not be fery great. The number of turns in the windings of the three primaries will then be adjusted to give the suggested 25% ripple on the DC standing component. If that should produce winding with ineffectively few turns, then the number of turns should be increased to a reasonable level and the magnitude of the signal powering those windings reduced electronically to the required level.

A possible alternative would be to have just one primary winding, and sum the three input signals electronically before driving the primary. This can be done quite easily by applying the three signal inputs via three resistors, to the gate of the driving FET transistor, and placing the primary winding as the load of that FET. For the moment, we will stick with the solution used by Stan and Bob, and assume that three primary windings will be used.

Bob Boyce states that the transformer is a very importnat part of the total system. Think of it as one of the most important parts of the power supply which feeds the cells. It is an inductor, a transformer, and a source of energy from conversion, all rolled into one. The transformer has been successfully duplicated and used by others, driven with my triple-oscillator board, to achieve a resonant drive to the cells which results in a performance which is well beyond the maximum stated by Faraday. The reason there is no step-by-step instructions for constructing the transformer is because it must be wound to match the load/impedance of the cells it will be driving. There is no 'one-transformer-fits-all' solution for this. I use a ferrite core of 6.5" diameter for units up to 100 cells. The MicroMetals core, part number 'T650-52' is a suitable core and is available from http://www.micrometals.com/pcparts/torcore7.html and can be purchased in small quantities via their 'sample requests', wich can be submitted at http"//www.micrometals.com/samples_index.html

The primary of the transformer is 3-phase, while the secondary is single-phase. Basic transformer knowledge will go a long way in calculating the turns ratio and wire size needed for a particular cell stack. Regular electronics and transformer guys may scratch their heads wondering how it can be possible work ... Ignore the 'it can't possibly work like that' reaction and just do it, the results are well worth it.

The transformer design depends on the cell curent and cell voltage. The cell durrent is determined by the concentration of the electrolyte and to a lesser extent, the plate area, while the cell voltage is determined by the number of plates in the cell. Bob cleans and conditions each electrolyser for several days using heavy DC current and then measures the cell current and voltage for optimum performance. He then uses these figures to calculate the wire diameters and number of turns for the transformer. He uses military-grade teflon covered silver-coated copper wire for the windings. The covering of any wire has a major effect on its capacity to carry current as nearly all of the current flows between the insulation and the outer surface of the wire. The primaries are usually wound from 20 AWG (21SWG) wire and the secondary from 16 AWG (18 SWG).

Bob Boyce has very kindly, freely shared his board design for anybody to build and use. His design is described here with his kind permission. This unit is built on a double-sided printed circuit board, where the connectins to some components are made on the top of the board while other components are soldered to the tracks on the underside of the board.

See all necessary diagrams and component lists in the pdf file.

And an alternative view of the component layout is:
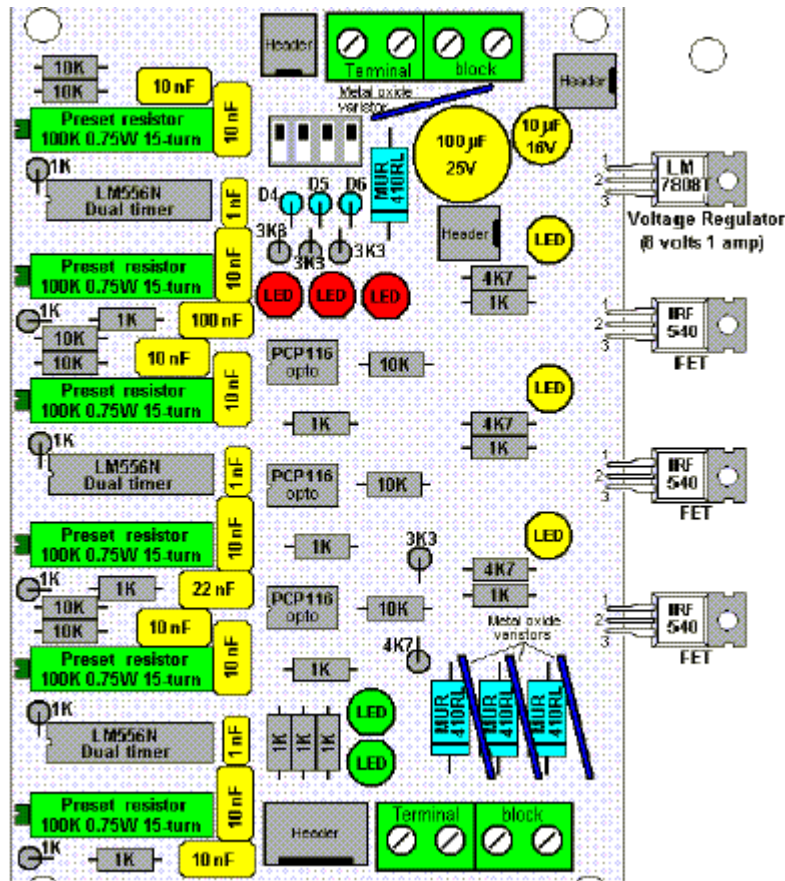
This circuit operates by adding the outputs from three separate oscillators together to form a complex waveform. Each oscillator can also have its Mark/Space (ON/OFF) Ratio adjusted without altering the frequency of the oscillator.

The timing circuit is powered via an 8 volt voltage stabiliser chip which smoothes out any variations in the battery's supply voltage. Each generated signal is boosted in power by an FET transistor whose load goes directly to the battery/alternator power line. The output from each ascillator can be switched in or out of the final waveform: see diagram.

The electrolyser runs with a Potassium Hydroxide electrolyte and it should be remembered that the Potassium Hydroxide is only a catalyst and does not get consumed in the process, consequently, the electrolyser gets topped up with plain water. Bob uses two bubblers. One is located close to the electrolyzer and the other close to the engine. The first one traps any KOH vapour which comes out of the cell while the second one protects against any accidental backfire (assisted by one one-way valve between the two bubblers). Bob pours the water in the first bubbler, back into the cell from time to time, so that no KOH is lost and only water is needed to keep the system running perfectly.

Bob's system is so very like that used by Stanley Meyer that it might be expected that the unit should run on pure water. However, that is not so. If pure water were used then the system would need high voltage to achieve this rapid breakdown effect. With an electrolyte solution, the water-splitting takes place at much lower voltage. It should be remembered that Stan Meyer used 5 volts at 2 amps for his demonstration to Admiral Sir Griffin at the British Admiralty, anf the result was described as 'large volume of gas'. Please remember that Potassium Hydroxide attacks 'Lexan' plastic (Polycarbonate) but is ok with PVC and acrylic. Sodium Hydroxide (NaOH 'lye') can be used with Lexan.
...

Winding the Transformer (from D9.pdf updated 0ctober 16,2007): The transformer in Bob's system is a very important component. It is an inductor, a transformer, and a source of energy-form conversion, all roled into one. The transformer has been successfully duplicated and used by others, driven with Bob's triple oscillator board, to achieve a resonant drive to the cells which results in a performance which is well beyond the maximum stated by Faraday.

The reason why there are no step-by-step instructions for constructing the transformer is because it must be wound to match the load/impedance of the cells it will be driving. There is no 'one-transformer-fits-all' solution for this. Bob uses a powdered iron core of 6.5" diameter for units up to 100 cells. The larger the diameter, the greater the power. Ferrite is fine for lower frequencies, but for this application, a powdered iron toroid core is essential. The MicroMetals core, part number 'T650-52' is a suitable core.

The Micrometals T650-52 Toroidal Core
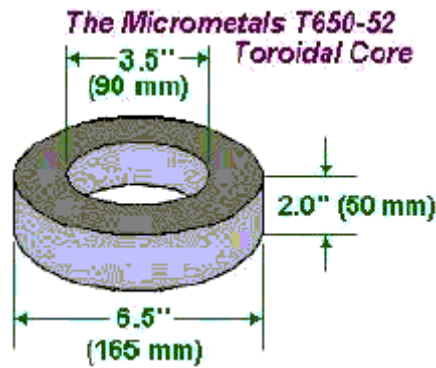
The primary of the transformer is 3-phase, while the secondary is single-phase. As most current flows along the outside of wires rather then through the middle of the wire, the choice and size of the wire chosen to wind the transformer is most important. Bob uses **solid** teflon-covered silver-plated copper wire. It is very important that this wire is solid core and **not stranded** as stranded wire does not work here (due to the generation of inter-strand, phase-differential induced eddy currents). Before any winding is done, the toroid is given a layer of tape. And the materials to be used are collected together, namely the tape, the wire, the beeswax and the heat gun:

Of paramount importance with the toroid is that unilike traditional transformer design, the secondary is wound first, and the windings must be evenly spaced where they fan out from the center of the core. This means even though they are tightly packed right up against one another at the center hole, they must not be wound so that they bunch up and gap open around the periphery. Mistakes here will cause field errors that will lower the overall efficiency.

As you can see here, Bob uses short lengths of plastic strimmer cable as spacers for the outside of the toroid, though the picture above has been taken to show that a partially prepared secondary winding looks like when its windings are being moved into very accurate positions.

You will notice that Bob has wrapped the toroid in tape before starting the secondary winding: ... see picture in original Patrick's file

Bob also uses a jar to assist in applying beeswax to the accurately positioned turns of the toroidal transformer:

When the windings are completed, correctly spaced and encased in beeswax, each layer is finished off with a layer of tape.

So, to recap, the toroid is wrapped in tape, the secondary wound extending the entire way around the toroid, the windings carefully spaced out so that the gaps around the outer edge of the toroid are exactly equal, the winding encased in beeswax, and then the beeswax covered with a layer of tape:

For the majority of systems, the secondary winding is a tightly wound, single layer, full-fill wrap of 16 gauge, single-core, silver-plated, teflon-insulated copper wire. There will be about 130 turns in this winding, needing a wire length of about 100 feet (33 meters). Count the exact number of turns in your actual winding and make a note of it. This secondary winding is held in place with melted beeswax, and when that has hardened, the winding is then wrapped tightly with a good quality glass tape. This makes a good base for the primary windings which will be wound on top of the tape layer.
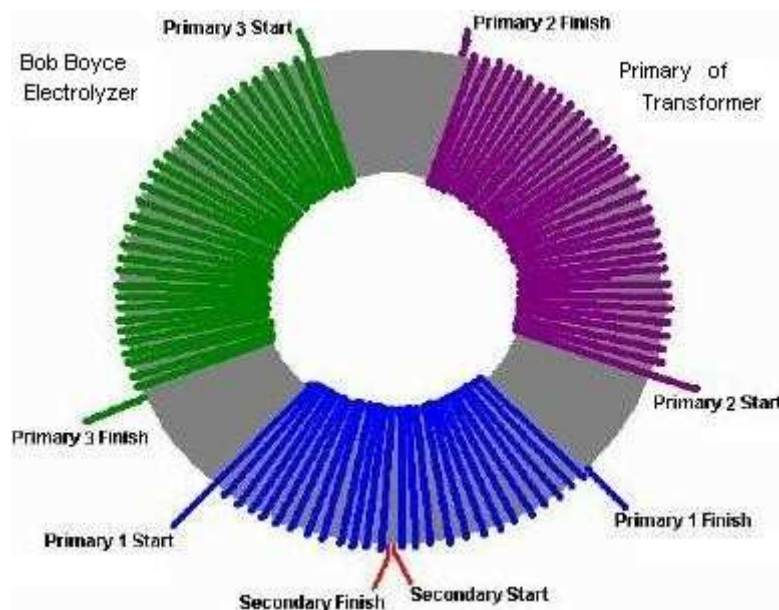
Please note that every winding starts by passing **over** the toroid, proceeds in a

counter-clockewise direction, and finishes by passing **under** the toroid. Every winding is created in this way and the quality of workmanship is very important indeed when making these windings. Each winding needs to be tight and positioned exactly with turns touching each other in the center of the toroid and positioned on the outer edge with exactly equal spaces between each tuen. Your construction work **has** to be better than that of a commercial supplier and needs to reach the quality demanded by the military, which would cost thousands of dollars for each toroid if it were to be made up for you by professionals.

The three primaries need to be wound on to[of the tape wrapping which covers the secondary winding. These three windings are spaced out equally around the toroid, that is, at 120 degree centres. The primary windings are held in place with beeswax, and then tightly taped. The primaries may need more than a single layer, and they are wound with the same direction of winds as the secondary, and the same care for even winding spacing as the secondary needed. Tape the entire core well with tightly-stretched PVC electrical tape after winding, to ensure that the primary windings do not move and then add an outer layer of winding tape. ...
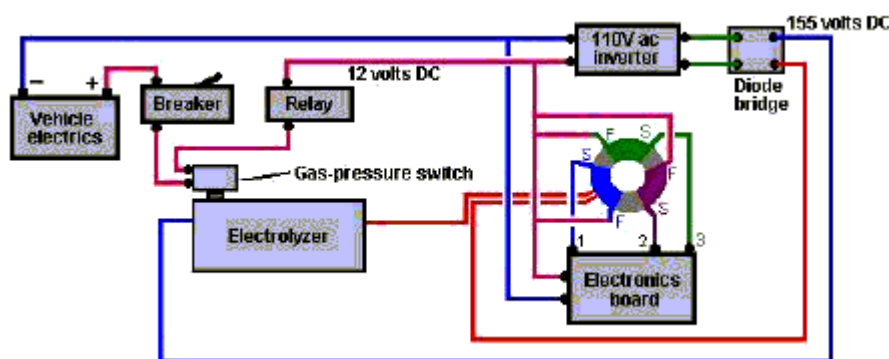
This is were the gentic information ends. The exact details of the primary windings must be determined from the operational characteristics of the cells. This means that you must build, cleanse and condition your cells prior to making the operational measurements. From those measurements, calculations can be made to determine what gauge and how many turns of solid-core, silver-plated, teflon insulated, copper wire are to be used for each of the three primary windings.

The objective here is to have the complex waveform generated by the electronics produce voltages of about 25% of the main power supply voltage at the electrolyzer. In other words, if an inverter is being used and its output rectified to produce about 160 V of pulsing DC, then the toroid tranformer secondary should generate about 40 Volts.

The output from the electronics board is about 13.8 Volts when driven by a vehicle's electrical sysstem, so to step that up to about 40V requires a step up of 2.9, which means that the secondary winding needs to have 2.9 times as many turns in it as the primary winding does. So divide the number of turns in youor secondary winding by 2.9 to calculate the number of turns in each of the three primary windings. If you had 130 turns in the secondary, then there would be 45 turns in each of the three primeray windings.

Normally, the diameter of the wire used in the primaries will be greater than that of the secondary because it will be driven by a much lower voltage and so will need a much higher current, but that is not the case here. Now that you have cleansed and conditioned the plates in your electrolyser, power up your inverter with your vehicle engine running at 2000RPM or so and measure the Dc current taken by the inverter. This is the level of current which the primary windings have to carry, so the wire size can be selected from this measurement. Each primary winding is pulsed, so it is not carrying current all of the time, also, the final primary current is the sum of the three pulsing signals, so a reduction can be allowed for that. While the wire diameter for the primary windings of each toroidal transformer need to be calculated separately, a common diameter turns out to be AWG #20 (21 SWG). The wire length for the

primaries will be greater per turn as the turns are now being made over the secondary winding. Forty-eight turns of #20 wire are likely to require at least thirty-five feet (12 meters) and that for each of the three windings, assuming that all turns can be laid flat side-by-side. If it is necessary to make each a two-layer winding, then the wire length will increase further.

Connecting the Electrics: Bob has specified that the primary windings are connected between the board outputs and the positive supply for the board like htis:

Please note that the diagram above does not show the low-pass filters needed in the power supply lines to control electromagnetic interferences. The vehicle electrics of battery and alternator, produce about 13.8Volts when the vehicle engine is running. If all is well and the contact-breaker (or fuse) is not tripped, the electrical power passes through to the gas-pressure switch mounted on the electrolyser. If the gas production rate is greater than the engine requirement and as a result, the gas pressure inside the electrolyser gets above 5psi, then the gas pressure switch disconnects the electrical supply which in turn, cuts off the generation of more gas until the pressure inside the electrolyser drops again as the engine uses the gas. ... The inverter output is 110Volts AC so it is passed through a diode bridge which converts it to pulsing DC with a peak value of about 155Volts. This voltage and the output of the electronics board toroidal transformer are passed to the electrolyser to electrolyse the water and generate hydroxy gas.

...
(from 'D3.pdf', updated October 31,2007) The output waveform from Bob Boyce's triple-pscillator board is sharpened up by the use of carefully chosen opto-isolators, and that output would almost certainly drive Dave Lawton's Meyer replication Water Fuel Cell. It would also be interesting to see if it has the same effect on battery recharging as the John Bedini pulse-charging circuits, as it is distinctly possible that it has. You will notice that Bob defeats the Faraday maximum output by careful construction of the electrolyser, plus one apparently simple electronics board and one apparently simple transformer. Again, these components call for very careful, high-quality construction as is common for most successful free-energy devices.

Serious warning needs to be given here. The combination of sharp pulsing and accurately wound toroid core composed of an iron powder matrix, draws in so much extra power from the environment that it is essential that it is only used with the electrolyser cell which is capable of soaking up excess energy surges. The extra energy drawn in is not always constant and surges can occur which can generate

currents of 10,000 Amps. It should be understood that this electrical current which we can measure is only the 'losses' part of the real power surge which is in a form which we can't measure as we have no instruments which can measure it directly. Consequently, the actual environmental power surge is far, far in excess of this 10,000 Amps. It is very important then, that the electronics board and toroidal transformer **are NOT connected** to other equipment 'to see what will happen'. Even more important is not to arrange a pulsed, rotating magnetic field in the toroid by sequential pulsing of coils spaced around the toroid. These arrangements can generate power surges so great that the excess power not soaked up by the circuit (especially after it's instantaneous burn-out) is liable to form the ground-leader of a lightning strike.

Bob experimented with this and was hit by a direct lightning strike. He was very lucky to survive being hit and he now works in a worshop which has metal walls ans roof, and lightning grounding at each corner of the building, plus a separate ground for the equipment inside the building. A device like this is not a toy, and it demonstrates the incredible level of free-energy which can be tapped by quite simple devices if you know what you are doing.