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**RECYCLING OF SPILLED OIL IN THE GULF OF
MEXICO INTO CLEAN HYDROGEN BASED FUEL,
GREEN ELECTRICITY
AND INERT SOLIDS**

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PLASMA ARC FLOW REFINERY

Websites on the Magnegas Technology

<http://www.magnegas.com>

<http://www.youtube.com/watch?v=WmYfDZcyBjc>

<http://www.youtube.com/watch?v=NDpDZWnRc4>

Websites on Scientific Background

<http://www.i-b-r.org/Ruggero-Maria-Santilli.htm>

<http://www.santilli-foundation.org/>

<http://www.i-b-r.org>

<http://www.neutronstructure.org>

<http://www.nuclearwasterecycling.com>

<http://www.hadronicpress.com>

1. INTRODUCTION

Following a lifetime dedicated to the environment, the author has suffered the agonizing pain in seeing his beautiful Gulf environment here in the West Coast of Florida being devastated by the ongoing oil spill that is causing an unprecedented environmental calamity with expected death of billions of living organisms underwater, on land and on air with an ecological devastation that will last for years and years to come.



PLASMA ARC FLOW REFINERY

2. SUMMARY

The author recommends using a plasma technology to convert the oil waste into a clean burning hydrogen based fuel. The technology is called Plasma Arc Flow(TM) (patents and numerous international patents pending) and it is based in flowing liquid waste through a submerged electric arc between coal electrodes. The arc decomposes the liquid molecules into atoms and forms a plasma around the tips of the electrodes at about 10,000°F. The Plasma Arc Flow moves the plasma away from the electrodes and controls the formation of a hydrogen based fuel sold under the trade name of MagneGas that bubbles to the surface for collection. In this way the liquid waste is converted into MagneGas, sterile liquid effluent and carbonaceous precipitates.

It is hoped that responsible authorities will provide all necessary funds for the long and expensive collection of the spilled oil, its safe storage and the needed clean up process, as

well as, most importantly, all the necessary permits for the conduction of supervised tests necessary for the clean up.

3. RESPONSIBILITIES

The primary responsibilities for this environmental disaster not only belong to British petroleum and its various affiliates, but also to the U. S. Government that provided billions of dollars of funding to the petroleum industry, permits for the building and design of the rig and the ongoing monitoring of activities.



4. PREMISES FOR CLEANUP

It is hoped that responsible authorities will at least provide all necessary funds for the long and expensive collection of the spilled oil, its safe storage and the needed clean up process, as well as, most importantly, all the necessary permits for the conduction of supervised tests necessary for the clean up.

5. FACILITATING CLEAN UP

In order to facilitate the clean-up, additional solvent should not be added to the gulf to prevent dissipation thus allowing the oil to float to the surface for collection. In fact, we recommend the best approach to be the following: 1) Let the oil spill reach the surface so that marine life underwater has a chance of surviving; 2) Contain and collect the spilled

oil with barges; and 3) Store the spilled oil in safe container on land so as to allow time for its proper recycling.

6. RECYCLING OF SPILLED OIL WITH PAF RECYCLERS

Under the assumption of the availability of the necessary funds and of the necessary permits, the U.S based public company Magnegas Corporation (www.magnegas.com) has industrial evidence verifiable now by any qualified party at its plant in Tarpon Springs, Florida, that the PlasmaArcFlow (PAF) Reactor (patented and international patent pending) can indeed recycle the oil spilled in the Gulf of Mexico into:



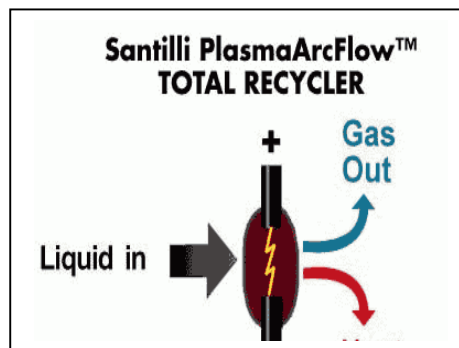
- 1) The clear burning hydrogen based Magnegas (MG) Fuel,
- 2) A large amount of heat that can be converted to produce green electricity, and
- 3) A small amount (about 1%) of sterilized and carbonized solid precipitates that can be legally disposed in municipal landfill or used for industrial purposes.

The above recycling is done without the release of any substance into the environment, whether gaseous, liquid or solid, and without appreciable sonic or odor pollution.

I attach pictures of a 200 Kw Reactor and related plant shipped a few days ago to an Italian customer, while we are in production of additional similar Recyclers for China and other countries. I provide below a detailed proposal. Additional information can be obtained from the website <http://www.magnegas.com>

OPERATING PRINCIPLE

Spilled oil mixed with a solvent as well as water is re-circulated through the inferno in the plasma created by an industrial DC arc between graphite electrodes, thus being exposed to thousands of amps of electricity, temperature bigger than that in the chromosphere of the Sun, and very powerful UV rays. Under these and other factors all molecules are decomposed into H, C, O and other atoms that are ionized and form said plasma. The recirculation of the liquid feedstock through the arc continuously removes the plasma from the tip of the electrodes that cools down and control the formation of a Syngas type of gaseous fuel called Magnegas, plus a large amount of heat acquired by the liquid feedstock, while solids (generally in small percentages) precipitate at the bottom of the Recycler for collection. This use of the PAF Recyclers is called Total Mode in the sense that the spilled oil is completely eliminated from the planet and transformed into clean energies and inert solids.



EFFICIENCY

The primary source of energy in the PAF Recyclers is carbon combustion. In fact, in the plasma surrounding the tip of the electrodes we have exactly the same chemical reaction as when burning oil in the boiler of an electric power plant, such as the synthesis of the CO (for which reason water is added to oil), plus the equally eso-energetic synthesis of H₂ and others. The energy released by these chemical reactions has been computed by Russian chemists to be about 25 times the electric energy used by the arc. Therefore, the Scientific Efficiency is always smaller than one as requested by physical laws

$$SE = (MG \text{ energy} + \text{Heath}) / (\text{Electric energy} + \text{Carbon energy}) < 1$$

But the Commercial Efficiency of PAF Recyclers in Total Mode defined without the carbon energy (since it brings an income rather than a cost) is always bigger than one

$$CE = (MG \text{ energy} + \text{Heath}) / (\text{Electric energy}) >> 1.$$

Small PAF Recyclers operated at low pressures are sold under warranty to produce at least five times the used electric energy. The large industrial reactors recommended to recycle the Gulf spilled oil can easily produce at least ten times the used electric energy when operated with sufficient power and operated at high pressure, as it can be demonstrated any time at our factory.



ENVIRONMENTAL QUALITY OF MAGNEGAS FUEL

Magnegas is one of the cleanest environmental fuels as certified by an accredited EPA laboratory reproduced in the website www.magnegas.com. When used as automotive fuel, Magnegas has been certified to have exhaust surpassing at least by a factor of ten the EPA requirements. Magnegas mixes beautifully with natural gas as it can also be demonstrated at the factory in Florida, and can be used for any fuel need, including: automotive fuel; metal cutting; house heating; industrial uses; etc. Additionally, Magnegas contains at least 65% of hydrogen in a mixture via a molecular bond, therefore, can be easily separated via molecular sieving equipment at a low cost. Hence, the Recycling of the Gulf spilled oil via PAF process will equally permit the production of a large volume of cost competitive hydrogen.

SUGGESTED MAGNEGAS USE

The recycling of the Gulf spilled oil via PAF recyclers is expected to produce very large volumes of Magnegas fuel or, if preferred, a very large volume of hydrogen. In numbers,

one liter of spilled oil is doubled by the addition of solvent and water, and then its classification yields about 2,000 liters of Magnegas fuel, or at least 1,000 liters of hydrogen. Hence, the production of Magnegas and/or of Hydrogen in the recycling of the spilled oil can produce billions of cubic feet of Magnegas and/or Hydrogen. Due to the expected large volume, Magnegas is suggested to be released in the natural gas pipeline for any fuel use, including the cost competitive use for heating homes. Hydrogen can be separated anywhere and whenever desired.

VERIFICATION

Magnegas Corporation requests from the responsible authorities that one barrel of spilled oil and one barrel of its solvent be delivered at no cost to the company plant in Tarpon Springs for all verification of the above statements by qualified observers at no cost, as well for the presentation of the praised recycling to the international press. Jointly, Magnegas Corporation requests that the EPA immediately release written authorization for the conduction of witnessed and controlled tests.

PROPOSED INDUSTRIAL PILOT PLANT

Following the above verification, Magnegas Corporation suggest the construction of an industrial size pilot plant for the engineering optimization of the process prior to passing to very large industrial plants. The main features of the proposed industrial pilot plant are the following:

POWER: 300 Kw

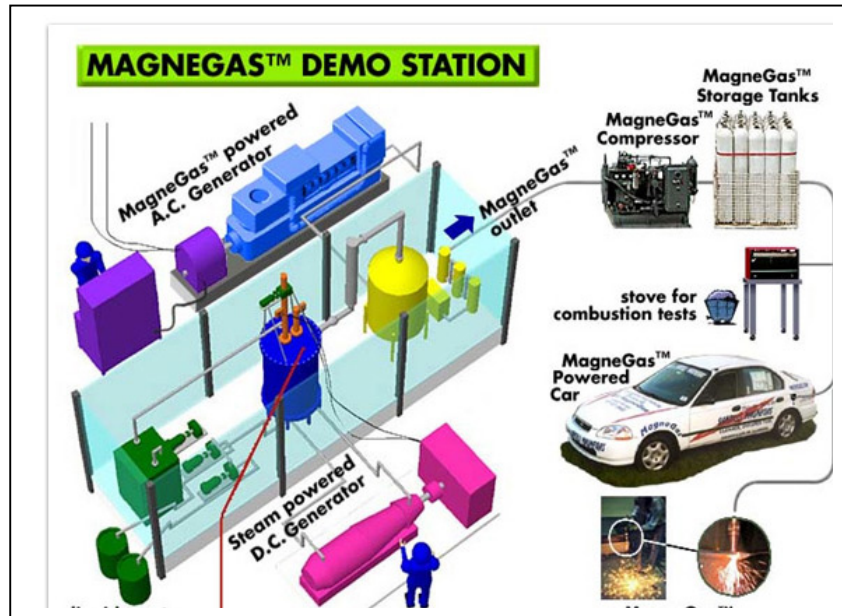
MAGNEGAS PRODUCED: About 3,000 scf of MG per hour

HEAT PRODUCED: about 10M BTU per hour

The main components of the proposed Industrial Pilot Plant are:

- 1) CENTRIFUGE STATION to separate salt water from the spilled oil via industrial high speed two phase centrifuges. The salt water must then be filtered and purified for its release in the Gulf. The Recycling of salt water is not recommended due to a corrosion problem and related high costs.
- 2) MIXING STATION, comprising means for diluting oil with a solvent to such an extent as demanded for pumps to operate efficiently.
- 3) PAF STATION. The Refinery as currently produced by Magnegas Corporation in a specially designed version built for the prevention of excess carbon deposits (fullerene) generally produced in the recycling of carbon rich feedstock.
- 4) HEAT RECOVERY STATION, to convert the large amount of heat into clean electricity for release in the grid.
- 5) A variety of control panels currently in regular production and sale, thus available now, for the completely automatic operations and their remote control.

COST AND DELIVERY TIME: The cost of the above specified Industrial Pilot Plant, including all chemical analyses, continuous use for at least three months, and all engineering work for optimization, is of \$5M (five millions US dollars), and its delivery can occur within three months from the reception of at least 50% down payment. Spilled oil should be placed in secure containers in any case. Hence the time for the construction of the plant will not cause environmental damages.



LARGE INDUSTRIAL PLANTS

PAF Recyclers can be easily scaled up via the use of the technology of arc furnaces that usually have power of several Mega Watts. Their production is expected to require six months at a cost of \$30M per large industrial plant. The time for the complete elimination of the spilled oil, and its conversion into clean fuel and green electricity, are then solely a question of available funds. Note that the construction of one single very large recycling plant (as it is the case for gasoline refineries) is discouraged because PAF Recyclers are efficient also in moderate size. Hence the structure suggested for the recycling of the spilled oil is that of setting up various PAF Plants strategically located near oil collections points in the Gulf.

7. COMPETITION

The above recycling of spilled oil should be compared with other processes, such as that of incineration that would produce an additional environmental catastrophe, this time solely in the air, for the evident reason that most of the pollutants in oil will end up in our atmosphere.

8. FUTURE USE OF LARGE INDUSTRIAL PLANTS

Rather than being decommissioned following the completion of the recycling of the spilled oil, the above suggested large industrial PAF Plants can continue to serve America with the production of a clean burning fuel and green electricity via the recycling of liquid waste that, rather sadly, are largely available everywhere.

Additional data and more specific information can be released depending on the availability of the necessary funds.

Yours, Truly

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