

Cold fusion powered vehicles

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A new energy vehicle project, nuclear-powered vehicles (NPVs), is put forward based on our experimental results and theoretical analyses. The scheme is simple and easy to realize. The idea is that a NPV can drive 100,000-150,000 km continuously only with a single filling of nuclear fuel (in factory condition). During the product life, it only needs to be maintained once every two years, such as replacing the tires, brake pads and other wearing parts as well as the cooling circulating water filter and air filter. When the vehicle is fuelled again to mileage of 200,000 km, the life of most parts is end and it can be scrapped. That is to say, a NPV need only one fueling in the lifetime and it is a kind of ideal vehicle of zero emission, no radiation, low cost and environmentally friendly. Its body, chassis, steering machine and so on are exactly the same as the traditional vehicle and we can use the available technology to manufacture it.

The core technology of NPV is the cold fusion power units (CFPU). For type of family car, the engine has capacity of 150 kW and the hub motor is used in the transmission system. After the power is adjusted by the controller, the power is sent to the wheel hub by electric cords to drive the car. A NPV can also be used as a mobile power source. With the help of power converter, the direct current from generators can be converted to 220 V alternating current. In case of power grid is damaged in natural or human-made disasters, the NPV can replace the municipal power for residents' use.

The CFPU mainly divided into three kinds according to powers. The small power of 150 kW is mainly for cars. Medium type of 300-400 kW is mainly for light trucks, cards and coach. Large type of 1,000-2,000 kW is mainly for heavy vehicles and all kinds of engineering machinery. The CFPU is composed of cold fusion reactor, nuclear fuel supply system, working medium heat exchange system, steam generator, turbine blade, turbine shaft brushless generator set, turbine shaft permanent magnetic generator set and turbine steam cooling cycle system, etc.

NPV's fuel is seawater concentrate fuel (SCF). We developed a device that can gradually concentrated the deuterium content in sea water to > 20at.% in cheap price and it can be used in CFPU as verified experimentally in our lab. The reaction energy of such fuel equals to the combustion heat of 300 liters of #90 gasoline. The present price of SCF is 1560 RMB (or 240 USD) per liter. This means this fuel is equivalent to the gasoline price of 0.76 RMB/L (or 0.12 USD/L). It is to say that the fuel tank of a NPV needs only 50 liters of SCF that is enough to keep it driving for more than 150,000 km [1,2].

References:

- [1] J. Rothwell, Cold fusion and the future, <http://lenr-canr.org/acrobat/RothwellJcoldfusiona.pdf>, 2004.
- [2] J. Rothwell, Cold fusion will lower the cost of both energy and equipment, <http://LENR-CANR.org/acrobat/RothwellJcoldfusionb.pdf>, 2016