

Re: nuclear separation of hydrogen from water vs. electrolysis

Source: <http://sci.tech-archive.net/Archive/sci.energy.hydrogen/2004-06/0221.html>

From: Eunometric (eunometric_at_yahoo.com.au)

Date: 06/20/04

Date: 19 Jun 2004 23:08:11 -0700

Angelo Campanella <a.campanella@att.net> wrote in message
news:<FEKAc.92939\$Gx4.50464@bgtnsc04-news.ops.worldnet.att.net>...

> *Eunometric wrote:*

>> *In the example above if the plant was a HTGR opperating at say 825C*

>> *the heat could produce either 1000MWHr or electricity or 1125MWHr of*

>> *Hydrogen using say the sufur iodine cycle.*

>>

>> *It could produce a combination thereof with half the heat dedicated to*

>> *electriciy production and half to hydrogen production.*

>

> *It is an easy leap of faith to expect that hydrogen can be generated in*

> *a nuclear hot gas system. Two aspects remain to be proven:*

>

> *1- The resulting hydrogen, or perhaps some light hydrocarbon, must be*

> *proven to be radioactive contamination free. The yield of tritium, for*

> *instance must be minimal to nil. And then for hydrocarbons, there are*

> *some isotopes of carbon to deal with.*

>

> *2- The total apparatus to do the deed needs to be cost-effective.*

>

> *What are the odds.....?*

>

> *Angelo Campanella*

It's a sure thing.

Coal and Heavy oil fill the oceans with heavy metals like mercury and release large amounts of radioactiviy. Mercury poisoning is causing stillbirths and birth defects right now.

Nuclear reactors do no such thing. For the same amounte of energy nuclear power releases a negligable miniscule fraction as much radioactiviy and essentially no heavy metals.

The HTGR or molten metal reactors do not expose the water they are thermochemically spliting to the nuclear core. In the HTGR the heat

sci.energy.hydrogen: Re: nuclear separation of hydrogen from water vs. electrolysis

is carried away by Helium gas running in tubes through the reactor and then the chemicals are heated by the gas through metal walls in a heat exchanger well away from the reactor. The fuel in a HTGR consists of a sand sized grain core of uranium oxide that is then surrounded by six layers of silicon carbide and graphite and then assembled into golf balls. The fuel is secure in the grains themselves even if a pellet were smashed open.