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INGEKOMEN

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GEMEENTE NIJMEGEN

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Onderwerp: Doorbraak Technologie voor Gelderland.

afgedaan:

Brief voor de Gemeenteraad en B&W Nijmegen

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Geachte Gemeenteraad en B&W Nijmegen:

Om uit de huidige mondiale energie-crisis te komen is er Doorbraak Technologie in de energievoorziening nodig, Ik heb mijn uitvinding the STGR (Simple Thorium Gascooled Reactor) via de Gemeente Wijchen, als Doorbraak Technologie, willen opstarten. Zie bericht onderaan dit bericht.

Het mogelijk inkomen van 40 miljard \$ per jaar is misschien te groot voor Wijchen. Ik heb niets meer vernomen.

Helaas willen de investeerders niet meer wachten en zal vrijwel alle werkgelegenheid naar het buitenland verdwijnen.

Ik wil toch nog proberen om een hoofdkantoor in Nederland te behouden. Ik verwacht dat het zeker 500 banen voor hoogopgeleide personen zal opleveren. Het liefst in Nijmegen!

Ik ben bereid om een presentatie over de technologie te geven zodat men weet waarover het gaat.

Op 10 februari 2016 was er een artikel van de heer Chris van Alem van de Gelderlander, over de STGR, in de krant.

Graag verneem ik of er uwerzijds belangstelling is voor de STGR als Doorbraak Technologie voor de energievoorziening.

Doorbraak Technologieën hebben in het verleden bewezen honderd duizenden banen op te leveren.

Het zal jammer zijn als dit alles aan Nederland voorbij gaat.

Bijgevoegd zend ik u de brochure van de STGR.

Hoogachtend
Ir. Remond R. Pahladsingh
TEN|Energy - President
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6537 TG Nijmegen
Mobiël 06 26902117

----- Forwarded message -----

From: Remond Pahladsingh

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Date: 2016-05-29 10:03 GMT+02:00

Subject: STGR industrie in Wijchen

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Geachte B&W Wijchen:

Enige tijd geleden heb ik u aangegeven dat ik graag in Wijchen wilde starten met de STGR als Doorbraak Technologie, Doorbraak Technologieën hebben bewezen honderd-duizenden banen te realiseren.

Ik heb niets meer van u vernomen.

Recentelijk heb ik de heer Sibert van Gaal in het Mozaïek ontmoet. Ik heb mijn energie project met hem besproken.

De heer van Gaal heeft mij toen voorgesteld om mw. A.Schaap te benaderen, voor mijn voorstel om via Wijchen mijn energiecentrale op de Internationale Markt te brengen. Heel veel werkgelegenheid en c.a. 40 miljard Euro per jaar.

Het is nu vrijwel zeker dat ik naar het buitenland zal moeten vertrekken. In Nederland van nu is er geen plaats voor Innovatie.

Mijn uitvinding zou voor de industrie van Wijchen en/of Gelderland veel kunnen betekenen.

Indien nodig was Ik bereid om een presentatie over mijn uitvinding te geven. Indien ik de industrie zou kunnen toe spreken zou het veel duidelijkheid kunnen opleveren.

Helaas heb ik ook van mevrouw Schaap niets meer vernomen.

Daar ik dus niets meer uit Wijchen heb vernomen, zal ik nu de gemeente Nijmegen benaderen. De heer van Gaal gaf reeds aan dat het STGR project misschien te groot was voor Wijchen.

Ik moet nu de gemeente Nijmegen benaderen, omdat het vrijwel zeker is dat het over grote deel van deze uitvinding naar het buitenland gaat. Er wordt nu met twee heel grote Europese landen onderhandeld. Zo zou ik nog wat werkgelegenheid in Gelderland kunnen behouden.

Ik wil u nu aangeven dat ik verder afzie van een bedrijf in Wijchen, en zal proberen om toch nog een deel van de werkgelegenheid in Nederland te houden.

Met vriendelijke groet,

Ir. Remond R. PAHLADSINGH

TEN|Energy - President

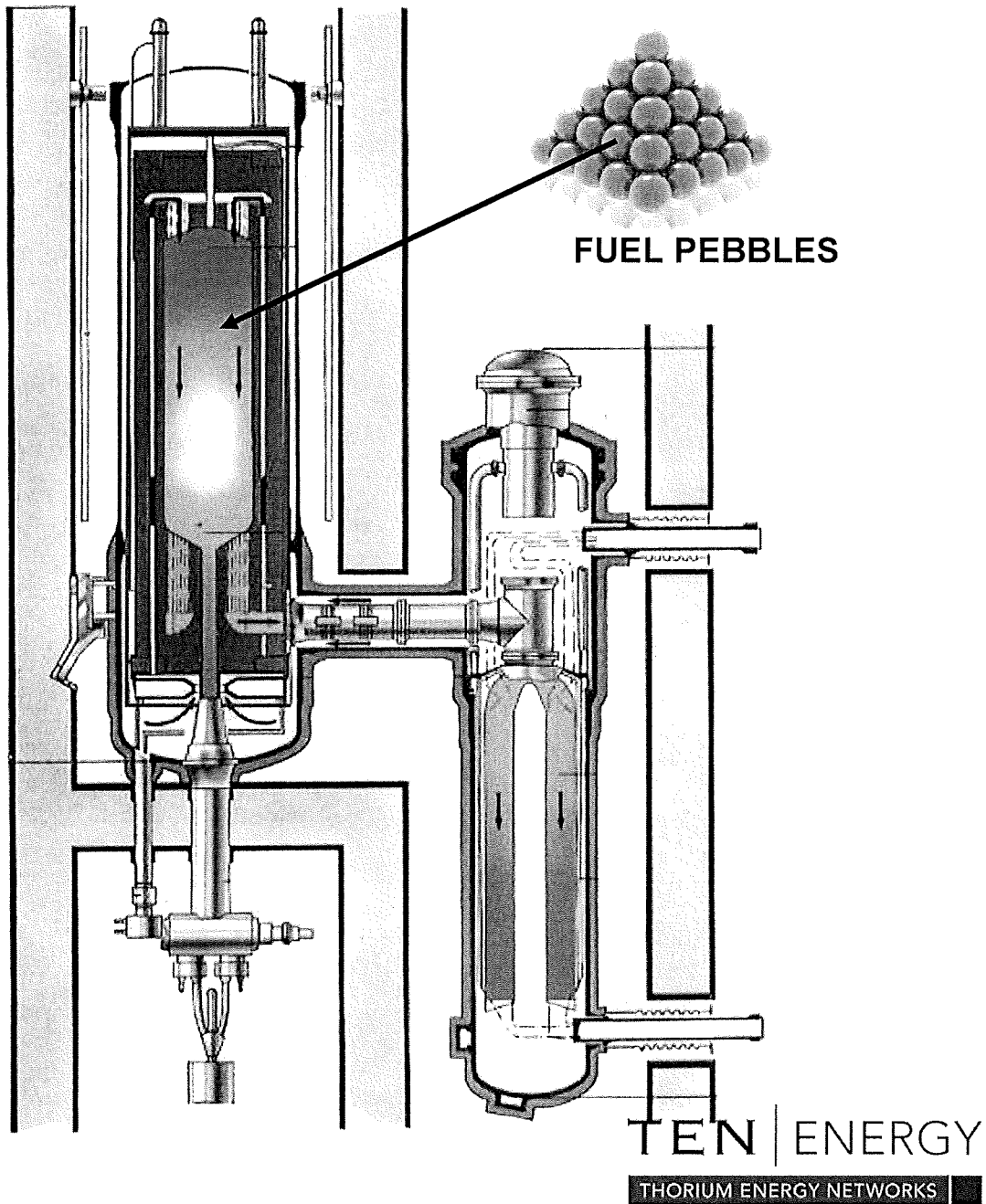
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STGR 20

SIMPLE THORIUM GASCOOLED REACTOR



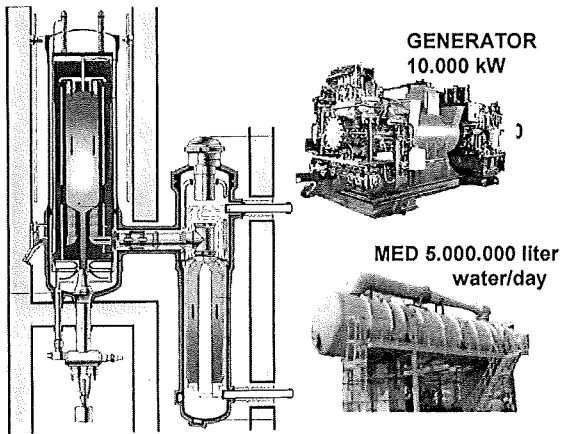
Nijmegen, 2015-May-15

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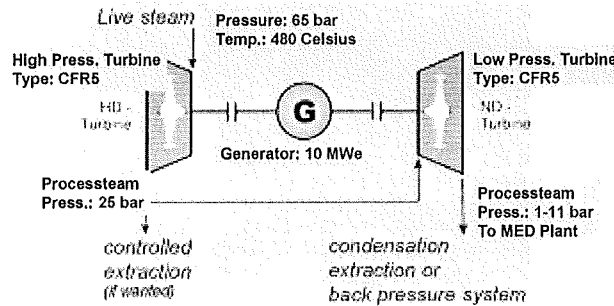
Introduction:

The STGR 20 is a HTGR – High Temperature Helium Gascooled Reactor with a 50 MW thermal heat output. It is a CHP –Combined Heat and Power – plant and produces 20 MW of electric power through two (2) skidmounted 10.000 kW turbine-generator sets.

In the STGR 20 about 20 MW thermal heat, at 1.5-2.5 bar and 120 degrees Celsius, is used to produce 5.000.000 litres/day of high quality water through a MED- Multi Effect Distillation Unit.



The process schematic of the turbine-generator set is shown below.



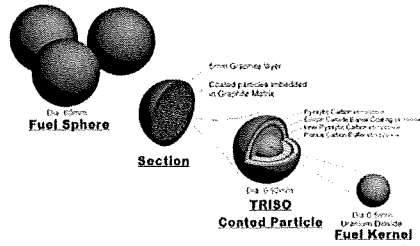
By using the STGR as CHP plant high fuel efficiency, over 80%, is obtained whereby the heat can be used to produce high quality water, for residential heating, for air-conditioning using absorption cooling or as process heat etc.

STGR Fuel Pebble:

The fuel of the STGR 20 is the Graphite

Fuel Pebble containing about 10.500 TRISO fuel kernels in each pebble.

INHERENTLY SAFE STGR FUEL



The Pebble is pneumatically loaded in the reactor and will through the Multi-Pass system, during its' fuel life-time of 3 years, go on average 6 times through the reactor-core. The STGR has no Refuelling-Stop.

The design of the fuel is such that aside of Thorium many other fuel types can be used in the TRISO Fuel kernel. In the picture below 5 types of fuels are shown. This means that the STGR can also help to get rid of the Plutonium and U233 by burning these in the TRISO-kernel. These combined with the preferred fuel, Thorium, solve expensive storage problems for dangerous materials. Furthermore in the STGR the MOX-elements give a much higher burn-up, better fuel efficiency, when compared with LWR –Light Water Reactors.

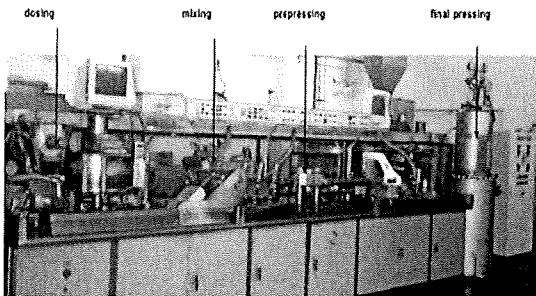
| HTR Fuel Cycle Options | | | |
|--|----------------|---------|-----------------------|
| LEU | U-235 | U-238 | HTR Reference |
| Low Enriched Uranium | | | |
| HEU/Th | U-235 | Thorium | Germany/USA 1970-1985 |
| High Enriched Uranium and Thorium | | | |
| MEU/Th | U-235 | U-238 | Thorium |
| Medium (20% enriched) Uranium and Thorium | | | Present Option? |
| Pu/Th | Pu-239, Pu-241 | MA | Thorium |
| Plutonium and Minor Actinides from LWR and Thorium | | | Future Option 1 |
| U-233/Th | U-233 | MA | Thorium |
| U-233 from Thorium or Fast Breeder Blanket and Thorium | | | Future Option 2 |
| | Fissile | Fertile | |

The STGR is an inherently safe reactor; this means that a core damage accident is not possible in the STGR; CDF=0. The Pebble temperature will, by the design of the reactor, not exceed 1100 ° Celsius while graphite remains stable up to about 2500° Celsius.

Production of the Fuel Pebble:

The uranium fuel plant, fuel enrichment and fuel assemblies, for the current nuclear reactors is a capital intensive multi-billion massive, difficult to change, industry.

The production of the STGR Fuel Pebble is a simple and low cost process as shown below. A fuel plant to produce fuel for about 30 STGR plants will cost about 30 million dollar.

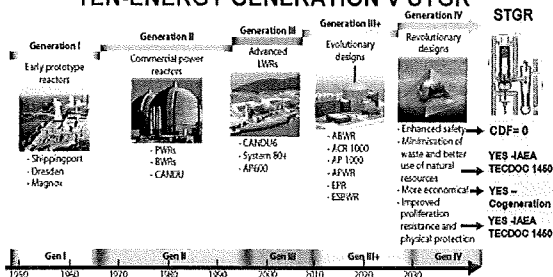


Pressing line for spherical fuel elements
Construction time for such a fuel plant is 24 months.

Safety of the STGR 20:

The international nuclear industry has prepared criteria for Generation IV nuclear reactors to be on the market in 2030. When the Generation IV criteria: 1-enhanced safety, 2-minimal waste, 3-better economics and 4-proliferation resistant fuel, are applied to the STGR, the STGR 20 is a Generation V reactor.

GENERATION I TO IV REACTORS AND TEN-ENERGY GENERATION V STGR

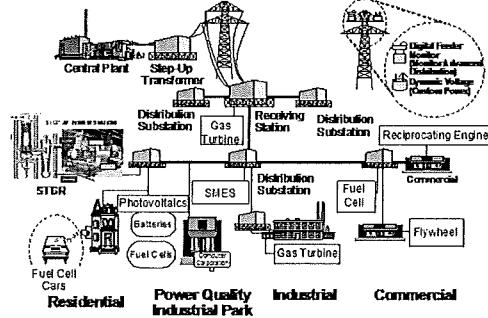


Deregulation and the Digital Society:

It has to be mentioned that the STGR also

is the better solution for the Deregulated energy market and the Digital Society. The inherently safe STGR 20 can be introduced in our local Distributed Generation Networks where high quality power is needed. This is a great advantage for Power Quality and reduces T&D costs.

GRID FOR THE DIGITAL SOCIETY AND THE STGR 20 IN THE LOCAL GRID



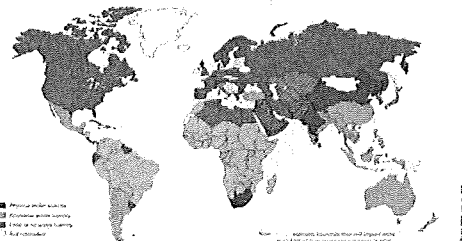
Attractive applications STGR:

-Drinking water solution

The STGR 20 is a CHP plant and this means that it can be the solution for the water scarcity problem in the world; the situation by 2025 is shown here.

THE STGR 20 CAN SOLVE THE COMING DRINKING WATER SCARCITY PROBLEM

Projected Water Scarcity in 2025



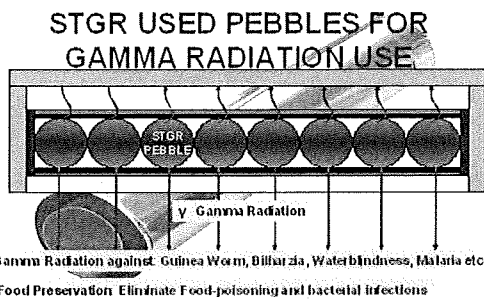
IWMI

According to the IWMI the southern hemisphere is facing an enormous shortage of drinking water. But also in West China and India the water scarcity will be serious and a threat to life. Here the STGR can perform the excellent solution that is possible with co-generation (CHP). By solving the drinking-water scarcity the STGR combines low cost drinking water with low-cost electricity.

-Food preservation solution

The "Used Pebbles" from the STGR 20,

after 3 years use in the STGR reactor, are a useful source of Gamma-Rays. Using Gamma-Rays for agricultural produce and food preservation is a widely used technology whereby radioactive Cobalt and Caesium are used. The Vice-President of the USA wants to limit the production of radioactive Cobalt and Caesium which are man-made isotopes. The "Used Fuel" of the STGR 20 could be the better solution.

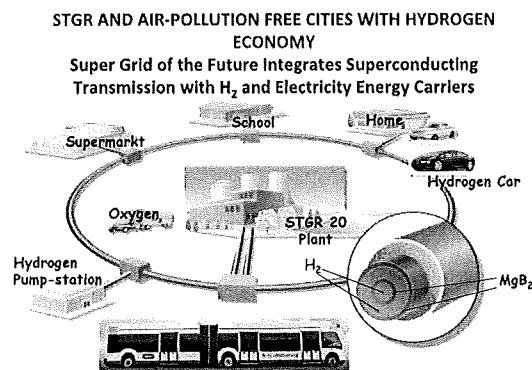


Not only for Food preservation but these "Used Pebbles" could solve the huge humanitarian problems with the parasite and bacteria from water-born diseases.

-The Hydrogen Economy

It is known in the scientific world that the Hydrogen economy can only come with cheap, and inherently safe, nuclear power.

We will have to create clean air in our cities to be able to live a healthy life; for us and for generations to come. The hydrogen technology, combined with the Fuel-Cell cars and buses are an excellent solution to solve the air-pollution problems in all densely populated cities.



By combining the hydrogen and fuel cell technology with the STGR Thorium

technology, we also eliminate greenhouse gas emission and air-pollution.

New Developments:

With the fast changes in the world also new needs become reality. Most of the time it is difficult to add new infrastructure and buildings, such as power stations, in our congested cities. The Nepal disaster is a tragic example. The world and the UN experience serious logistic problems during disasters by nature, wars and climate change, to provide basic needs such as electricity and drinking water at the sites where the relieve is urgently needed. The "Used Fuel Pebbles" are an ideal heat-source to stop deforestation in the cold regions and in the mountains.

-Barge-mounted STGR power stations.

TEN|Energy will work with companies in the China, India, Indonesia to manufacture barge-mounted power station with more modular STGR 20 units. These barge-mounted plants will be in the range of 100 MW to 200 MW electric power output and 25 to 50 million litres of high quality water per day. India and Indonesia are interested in this concept and will be ready to build these power stations as soon as the orders are placed.

TEN|Energy Partners

The partners of TEN|Energy at the moment are shown below; it is expected that soon the number of partners will increase for new or needed knowledge, technology, experience and Joint Ventures.



For information: Contact TEN|Energy or local partner.