

**Gallagher, Carol**

**From:** H. Gerhard Gran <hggran@yahoo.com>  
**Sent:** Friday, September 11, 2015 11:27 AM  
**To:** YMEIS\_Supplement Resource  
**Subject:** [External\_Sender] My last version.

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Dear Ms. Christine Pineda,

8/21/2015  
80FR 50875

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I'll be calling you shortly about this.

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Gerhard

**YUCCA MOUNTAIN & NUCLEAR POWER ARE IMPERATIVES NOW!**

Presently USA has 66 operative nuclear electric power generating stations with 99 reactors. They use uranium where the U<sub>235</sub> content has been enriched from about 0.72 % to about 4 %. ~ 30 % of that uranium is enriched in the US. Russia and China are enriching most of the rest. ~ 90 % of the uranium used in the US is imported. Ordered in descending importance exporting nations are Kazakhstan, Australia, Canada, Russia and Namibia.

In the reactors most of the U<sub>235</sub> content is consumed, about down to that of unenriched uranium. There are a lot of challenges in reprocessing used uranium fuel for reuse. Presently it is not done in the US. The fuel continues to produce heat after the reactor has been turned off. After a day it is 0.4 % of the original, 0.2 % after a week. This effect requires the fuel to be cooled for years after it has been removed from the reactor. Water that is cooled in heat exchanger usually does it.

Since the cost of those 66 power stations has been amortized, the power is sold for 23.5 % of the current wholesale price of power. The cost of the nuclear fuel is almost negligible. Including the 3.5 times more abundant and 3 times less costly and much safer thorium, the world has nuclear fuel for about a million years assuming the world population will diminish to a third or less in the coming ice ages. The supply of coal and hydrocarbons (n. gas and oil) will last for ~ 200 years. Worldwide and in the US the wind and solar power are 5 to 15 times more costly in the long run.

**If we completely convert to nuclear electric power generation now, we may have natural gas for home heating, gasoline for our cars and jet fuels for our military jets for 1000 years.** We should prefer investing in nuclear to wind and solar. When nuclear plants are paid off, the cost of nuclear generated power will be a low fraction of any of the other production method.

The Yucca Mountain site and the surrounding area are ideal for storing and reprocessing spent nuclear fuel: Spills are not expected. If one should occur, its effect will be completely negligible compared to that of the 928 atomic bombs detonated just upstream of its groundwater flow.

SUNSI Review Complete

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Add= C. Pineda (CBI)

Despite current global warming disinformation, an ice age is due in 100 – 1 000 years. By then the US should not only have converted to 100 % nuclear electric power generation. Conversion of our transportation system south of the glaciation line to rail, and a few huge nuclear powered Hovercrafts for our oceans: the Atlantic, the Pacific and the Mexican Gulf must be completed.

**These considerations make it imperative for our defense and for the US economy to convert to 100 % nuclear electric power urgently.** Locally in Nye County the ideal Yucca Mountain area for reprocessing nuclear fuel and for power plants would provide lots of high quality jobs. Water may be provided by membrane enrichment to ~ 0.5 % salts at the Pacific and evaporation units all along the line to Yucca Mountain. World population supposedly will peak at 9 billion, making food production very lucrative, also into the ice age when food production plummets.

Respectfully,  
Gerhard Gran, MSME, P.O. Box 9600, Pahrump, NV 89060. (775) 727-6546.