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BRC Public Comment Meeting

Hilton Garden Inn, 815 14<sup>th</sup> Street N. W.

Washington, D.C. 20005

October 20<sup>th</sup>, 2011

Dear Commissioner(s)

The presence of nuclear energy and its deadly destructive waste, and ways are threatening the very idea of a future.

Since 1945, 66 years ago, when the first nuclear test took place in New Mexico there have been three major accidents, Three Mile Island 1979, Chernobyl 1986, and now Fukushima on 3/11 of this year. These accidents didn't just happen on these dates, they **began** on these dates. Seven months after Fukushima the updated news keeps changing for the worst. Areas around Three Mile Island still have the effects of radiation looming in the air, water, and soil. Chernobyl is still saturated with huge amounts of radiation, and if the present enclosure around the reactor at Chernobyl is not replaced soon we will have another doom and gloom at the same location. 1951 was the first time a nuclear reactor generated power near Arco, Idaho. This was also the first reactor to have a partial meltdown in 1955. Since then nuclear power plants have been producing tens of thousands of tons of nuclear waste with nowhere to go. Nuclear waste not only comes as a byproduct of nuclear energy, but also from the entire process of mining, milling, and enriching. Waste is also created by the omnipresent leaks, malfunctions, and near misses all along the way. These accidents, leaks, malfunctions, and near misses teach us that the **unexpected DOES in fact happen**.

The two most abundant radioactive elements are Plutonium 239, and Uranium 238. Plutonium a half life of 24,000 years, and Uranium 238 has a half life of 162,000 years, a time so vast that it's basically forever. A single speck of Plutonium in the lung will cause cancer. That speck of Plutonium will remain through death and beyond.

Nuclear power plants cannot operate without regular, deliberate, and allowable releases of thousands of radioactive elements into the environment every day. It's important to know that a nuclear power plant uses approximately 100,000 gallons of water per minute, and this is in a world where close to 3 billion people are without clean drinking water or adequate sanitation. In a developed country per capita use is approximately 120 gallons of water per day. With the population reaching 7 billion this month, what are we to do?

Presently, there is a delusional premise behind nuclear energy that thinks we can create this waste and then contain it for the duration of its potent existence. So now, we have to live with the accumulation of the – blow up the earth- nuclear waste as well as the threat of a nuclear war. This hangs low above our pillows every night.

The continued accumulation of nuclear waste will be preventing any effective solution from ever being realized.

All this said the PSR's recommendations for handling the explosive waste seems to be well thought-out and reasonable. As a default only, for there is no solution, I would suggest taking their view point seriously.

Thank you,

A handwritten signature in cursive script that reads "Regina Minniss". The letters are fluid and connected, with a prominent loop at the end of the name.

Regina Minniss

# IONIZING RADIATION'S EFFECT ON THE BODY

## SKIN

(RADIONUCLIDE    TYPE    HALF-LIFE)

URANIUM 238    ALPHA    162,000 YRS.

PLUTONIUM 239    ALPHA    24,000 YRS.

COBALT 60    BETA/GAMMA    5 YRS.

*Skin Cancer*

## BREASTS

PLUTONIUM 239    ALPHA    24,000 YRS.

CESIUM 137    BETA/GAMMA    30.17 YRS.

STRONTIUM 90    BETA    29.1 YRS.

*Breast Cancer*

## LIVER

COBALT 60    BETA/GAMMA    5 YRS.

*Liver Cancer - higher death rate in women*

## OVARIES

- Attacked by all radioactive isotopes emitting gamma radiation.
- PLUTONIUM 239 known to concentrate in the ovaries or testes.

*Birth defects, mutations and miscarriages.*

## MUSCLE

POTASSIUM 42    BETA/GAMMA    12 HRS.

CESIUM 137    BETA/GAMMA    30 YRS.

*Sarcoma - cancer of muscle tissue*

## WHOLE BODY

TRITIUM    BETA    12 YRS.

*Breast Cancer*

*Intestinal Cancer*

*Down Syndrome*

## THYROID

(RADIONUCLIDE    TYPE    HALF-LIFE)

IODINE 131    BETA/GAMMA    8 DAYS

*Thyroid Cancer - women are three times as likely to be affected as men*

## LUNGS

URANIUM 234    ALPHA    162,000 YRS.

PLUTONIUM 239    ALPHA    24,000 YRS.

KRYPTON 85    BETA/GAMMA    10 YRS.

*Lung Cancer - much higher rate among uranium miners*

## SPLEEN

POLONIUM 210    ALPHA    138 DAYS

*Lymphoma - cancer of the blood cells*

## KIDNEYS

RUTHENIUM 106    BETA/GAMMA    1 YR.

*Kidney cancer - difficult to detect, hard to stop after 5 yrs.*

## BONE

RADIUM 226    ALPHA    1620 YRS.

STRONTIUM 90    BETA    29.1 YRS.

*(crosses into the bone marrow)*

YTTRIUM 90    BETA    64 HRS.

PROMETHEUM 147    BETA    2 YRS.

BARIUM 140    BETA/GAMMA    13 DAYS

THORIUM 234    BETA    24 DAYS

CARBON 14    BETA    5,600 YRS.

PLUTONIUM

*Leukemia - an overproduction of abnormal white blood cells which can be treated to some extent.*

