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Regina Murray 1/25/12

(1)

The presence of nuclear energy and its waste are threatening the very idea of a future. The first thing to melt down is the truth. Nuclear energy is not clean, safe, or sustainable.

It's important for the public to know that nuclear power plants can not operate without regular, deliberate, and allowable releases of thousands of radioactive elements into the environment every-single-day.

The two most abundant radioactive elements are Uranium 238, and Plutonium 239. Plutonium has a half life of 24K years. Uranium has a half life of 162K years. A time so vast that it's essentially forever. A single speck of Plutonium in the lung will cause lung cancer. That speck will continue to remain after death. We now have about 70 TONS of nuclear waste with no where to go. Even if a site is found, we still have it around ^{of a nuclear plant.}

Since 1945, 67 yrs ago when the first test took place in New Mexico there has been several major accidents. A few well known accidents are 3 Mile Island ¹⁹⁷⁹, Chernobyl ¹⁹⁸⁶, and of course Fukushima 3/11. These accidents and others didn't just happen on these dates, they began on these dates. None of the sites are totally clean-up. Chernobyl is still saturated with huge amounts of radiation, and if its present ~~contaminated~~ ^{enclosure} isn't replaced soon, we will have ~~an~~ an additional disaster.

Roger Munnis 1/25/12

(2)

10 months after Fukushima the updated news keeps changing for the worse.

Nuclear energy is water intensive. ~~Soon~~ We are ~~the world will have wars over water~~; Darfur already starting to see wars over ~~own natural resources~~ water. Darfur in one, Palashin & Ismael is another. ~~There~~ ^{Presently} there are several U.S. states that are water stressed. A 1000 megawatt nuclear power plant used approx 20K gallons ^{of water} a minute; that's 29 billion gallons ~~at every~~ ~~second~~ from one plant every - single - day. Per capita water consumption is 120 gallons a day, so that is water consumption for approx 250K people every - single - day. People should know that at least 3 billion people on this earth do not have access to clean water.

Thermal discharges into the bay, and water vapor into the air contributes to global warming. The 11 reactors in the Chesapeake Bay water shed ~~an~~ augment the ~~only~~ all ready 40% dead Chesapeake Bay ~~causing~~ also causing harm to fish and all life every - single - day.

The mining of Uranium is energy intensive, ~~it releases~~ large amounts of carbon dioxide is released through its mining, ~~melting~~ crushing, melting, and to the coating of its concrete and steel structures for its reactors, to glazing its hot radioactive waste. Uranium is finite, so as the Uranium closest to the surface is used up,

Rogier M. Minnis 1/25/12

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mining deeper into the uranium veins is
even more energy intensive.

Nuclear energy is not clean, safe, or sustainable.

Rogier Minnis

1/25/12

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.
CAESIUM 137	BETA/GAMMA	30.17 YRS.
STRONTIUM 90	BETA	29.1 YRS.

Breast Cancer

LIVER

COBALT 60	BETA/GAMMA	5 YRS.
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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.
CAESIUM 137	BETA/GAMMA	30 YRS.

Sarcoma - cancer of muscle tissue

WHOLE BODY

TRITIUM	BETA	12 YRS.
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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
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Lymphoma - cancer of the blood cells

KIDNEYS

RUTHENIUM 106	BETA/GAMMA	1 YR.
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Kidney cancer - difficult to detect, hard to stop after 5 yrs.

BONE

RADIUM 226	ALPHA	1620 YRS.
STRONTIUM 90	BETA	29.1 YRS.
<i>(crosses into the bone marrow)</i>		
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.

