

## NASA Space Nukes

*Beware misinformation ... this apparently knowledgeable piece is again networking from R. Hoffmann of California. I have annotated it.*

Info-shop News (an anti-network)  
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In a few days, NASA plans to launch the New Horizons space probe, its destination: Pluto. In order to travel so far, New Horizons will have to start its journey extremely fast -- the half-ton probe will be the fastest spacecraft ever launched, passing the moon in just over nine hours, if all goes well.

For electricity and heat, New Horizons will use a Radioactive Thermoelectric Generator. The "RTG" contains 24 pounds (about 132,465 Curies) of extremely deadly plutonium -- mostly Pu 238, and about 12% Pu 239 (aka "weapons grade plutonium"). **(an RTG is a compact isotopic battery.)**

The name similarity between the destination and the power source is unlikely to have been a coincidence: NASA probably chose this particular mission because they were sure no "anti-nuclear activist" could legitimately claim you could run experiments once you got to Pluto with solar power -- you needed (so NASA claimed) plutonium for THIS mission, and that's why THIS mission was chosen. Our claim that solar power could have been used for the Cassini/Huygens mission to Saturn was, in effect, validated by NASA's choice of Pluto as the next big nuclear target. **(Wonderful loss of logic here)**

An Atlas V rocket (with Russian engines and a Centaur booster) will be used, containing a multitude of potential failure points, which could result in a release of some or even all of the plutonium. These releases could cause quantitatively enormous (millions) but statistically undiscernible (0.000...x%) global cancer increases. A launch failure could also result in significant increases in local cancer rates around the impact zone, and the permanent evacuation of dozens or even hundreds of square miles of territory. **(No basis for this imaginative paragrph.)**

The U.S. Government is risking this catastrophic result to learn about the slowest-moving, coldest, deadest planet in the solar system. **(Careful inference of uselessness.)**

Pu 238 has a half-life of 87.75 years. Pu 239 has a half-life of 24,131 years. For this reason, after an accidental release, and for the next thousand years or so, the dispersed Pu 238 portion would be hundreds of times deadlier per gram than an equal amount of Pu 239 would be.

Both isotopes, Pu 238 and Pu 239, decay by alpha emission. An alpha particle is the nucleus of a helium atom, which has been ejected from the nucleus of a larger radioactive atom (in this case, plutonium), at very high speed. Alpha particles have a mass of about four atomic units, an atomic number of two, and are made of two protons and two neutrons.

Alpha particles don't travel very far, and for that reason they are nearly harmless when outside the body -- your dead layers of skin can stop them, for instance (although even then, some damage can occur). However, an accident involving the New Horizons space

probe would result in tiny vaporized particles of plutonium. These particles are especially dangerous to humans and other living things because they can be inhaled into the lungs or ingested with food, and then the alpha emissions occur inside your body, not "safely" outside. In essence, we are all filters for the environment.

Each vaporized, respirable particle -- and there might be hundreds of billions of such particles per pound of plutonium -- while measuring perhaps only microns in size, nevertheless can consist of trillions of radioactive atoms, half of which will decay in 87.75 years.

Any part of your lung, which gets such a tiny plutonium particle lodged in it could be bombarded over and over by the alpha particles from that one "chunk" of the RTG. Local clusters of cells in your lungs, for example, can be repeatedly bombarded by alpha particles, and the DNA or some other vital part of the cell can be damaged. A millionth of a gram of plutonium is considered enough to cause lung cancer. Plutonium also causes leukemia, birth defects, heart disease, and literally thousands of other ailments and variations of these health effects. **(This is Tom Cochran's old hot particle theory that has no basis in science.)**

There is also a military connection to this launch, because "RTGs" can be used for spy satellites in orbit around the earth, but the government has never admitted to such use. **(unless of course you care to look it up on the Internet)** Using RTGs has technical and cost advantages over solar-powered spy satellites. The U.S. military and NASA assume that the RTG containment system they have designed is adequate, but this has not been subjected to ANY independent analysis. The technical documentation provided by NASA and its subcontractors to this author on substantially-similar earlier RTG models made it abundantly clear that the containment system is UTTERLY INADEQUATE for the task which it might be required to perform. **(The author is a software developer not an engineer)**

Specifically, NASA chose essentially ARBITRARY values for the maximum forces an accident might place upon the RTG or its components. Then they determined, through a few experiments, that the units might usually survive those test values. The test values have little to do with the forces the RTGs might actually experience and were probably picked after earlier experiments had suggested what forces the test samples could successfully survive! **(Not true)**

This logic is as flawed as NASA's statistical lack of reasoning when they calculate the chance of ANY plutonium release (about one in 350, according to NASA) but then don't worry because, according to their guesswork, most of those accidents which do release some plutonium won't release all that much plutonium. Or so they say.

NASA has lost several nuclear payloads over the years, and numerous **(sic)** rockets of all sizes, types, builders, agencies, and countries have failed in the past. Because the New Horizons launch is insured under the notorious Price-Anderson Act, payments to people outside the United States who might be harmed will not exceed \$100 million dollars in total, regardless of the actual extent of the damage. Even in the U.S., payments to victims will be severely limited, and could be only pennies on the dollar, or less.

The danger from accidents is sufficient reason to prohibit NASA from launching nuclear materials into space, but the probable covert military use of RTGs is yet another reason this practice must be banned completely (RTG-like devices are also used terrestrially, for powering remote deep-sea listening posts and other spy equipment).

The launch of the New Horizons space probe violates the spirit of international space cooperation. NASA and the US Military need to be stopped for the sake of humanity. They blunder forward as if they themselves will not also some day become the victims of their own global atrocities.

**(New Horizons has been launched and is on its way to gather new information leaving dullards like Hoffman back in the stone age.)**

For the facts on RTGs see: ***"The Role of Nuclear Power and Nuclear Propulsion in the Peaceful Exploration of Space,"*** John Graham with assistance from V. Ionkin and N.N. Ponomarev-Stepnoi, International Atomic Energy Agency, September, 2005.

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