

## **Space Solar Idaho**

- Homepage - News - External sources -

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For years NASA insisted it couldn't be done. Beyond the orbit of Mars, NASA said, solar energy could not be used to generate electricity for onboard power on space devices.

So the agency used the extremely dangerous nuclear substance, plutonium, as fuel in electric generating systems-and people on Earth were put at great risk in the event of an accident.

In the last several years, NASA moved to expand its space nuclear program. And, the Department of Energy-which provides the plutonium-fueled systems to NASA-announced it was going to consolidate the production of plutonium for them at Idaho National Laboratory.

Now, suddenly, it turns out that plutonium power is not necessary even beyond the orbit of Mars. NASA concedes: solar power will do just fine.

As the leading space industry trade magazine, Aviation Week & Space Technology, recently reported: "Budget and technical realities have led NASA to put its once-ambitious space nuclear power plans on a slow track, but development in solar power generation should allow new scientific probes beyond Mars to operate without nuclear energy. The U.S. space agency is already planning a solar-powered mission to study the atmosphere of Jupiter, and has looked at sending probes as deep into space as Neptune using only the Sun's energy for spacecraft and instrument power.It is all but certain the next U.S. deep-space missions will be solar-powered."

## Neptune!

The piece went on describe the new giant solar energy systems that will be used to harvest solar energy at record efficiencies vast distances from the Sun.

Jeremy Maxand, executive director of Idaho's nuclear watchdog, the Snake River Alliance, which has been challenging using INL to produce plutonium,

says: "It's good to see plutonium space batteries following in the steps of the now demoted planet Pluto. We've said since day one that plutonium is unnecessary and dangerous, and that we can do the same job a better way, and now we're seeing what that better way is-solar."

And, as in space so goes the Earth below.

Maxand notes: "The window of opportunity to fool the public into going nuclear, in energy and space travel, is quickly closing. While DOE and big nuke contractors like Lockheed Martin are rushing to secure funding and policy to keep nuclear around, alternative energy developers are running laps around the nuke industry, building manufacturing plants and putting up wind farms faster than the government can finish a plutonium draft environmental impact statement."

The nightmare of nuclear power has taken a huge toll-and has stood to cause even more illness and death. There have been the Three Mile Island and Chernobyl disasters, and numerous near misses.

Of 28 U.S. space missions using plutonium, there have been three accidents, the worst in 1964 in which a

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plutonium-powered satellite fell back to Earth, breaking up and spreading the toxic radioactive substance widely. Dr. John Gofman, professor emeritus of medical physics at the University of California at Berkeley, has long linked that accident to an increased rate of lung cancer on Earth.

There have been dangerous NASA schemes such as the plutonium-fueled Cassini mission. In 1997, NASA launched its Cassini probe, which carried more plutonium than ever put on a space device; and in 1999, Cassini was hurtled back at Earth in a "flyby" to increase its velocity so it could get to Saturn. If there was what NASA called an "inadvertent reentry" of Cassini into the Earth's atmosphere during the "flyby" just a few hundred miles up, it would disintegrate and "5 billion of the world population could receive

**99 percent or more of the radiation exposure," NASA admitted** in its Final Environmental Impact Statement for the Cassini Mission. Opponents said solar could substitute for plutonium on Cassini. No way, said NASA.

Cassini made it past, but six weeks later NASA's Mars Climate Observer on a "flyby" of Mars came in too low-one NASA team calculated altitude in feet, another in meters, and the "human error" screw-up caused it to crash. It could have been Cassini.

What's going to happen now concerning plutonium production at INL?

Probably, DOE will claim it's important to continue another use-a so-called "national security" use-of the especially nasty isotope of plutonium, Plutonium-238, to be fabricated at INL.

What DOE is referring to is the use of plutonium in surveillance devices the U.S. has through the decades left in far-flung areas of the world.

Here, too, solar panels could harvest the needed energy safely. And, post-9/11, scattering plutonium-fueled surveillance devices around the planet is asking for it. All it would take is "a terrorist with a Phillips head screwdriver" to take plutonium from one of these devices and fabricate a super-dirty bomb, as Maxand has pointed out.

As to the safety record of these systems, most of it is hidden in secrecy but an illuminating book, just-published, is An Eye at the Top of the World by Pete Takeda. It reports now how the CIA installed a plutonium-powered surveillance device in the mid-1960s in the Himalayas, which was subsequently swept away by an avalanche. The device fell and sunk into a glacier and was lost.

The plutonium it contained is now "moving ever closer to the source of the Ganges River"-a sacred river for a billion people.

We don't need plutonium in space, at INL, or spreading into the Ganges.

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Karl Grossman, professor of journalism at the State University of New York/College at Old Westbury, is the author of The Wrong Stuff (Common Courage Press) and narrator of the TV documentary Nukes In Space (<a href="https://www.envirovideo.com">www.envirovideo.com</a>).

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