

US science group says it's time to start burying plutonium

May 10 2012, by Bob Yirka



Plutonium,. Pictured against an inch and centimeter rule. Image: Wikipedia.

(Phys.org) -- As researchers the world over continue to try to find a way to meet the energy needs of an over populated planet, negative consequences for choices already made continue to pile up. Global warming that appears likely caused by the burning of fossil fuels is one, dealing with radioactive waste from nuclear power plants (and the decommissioning of atomic weapons) is another, perhaps more solvable problem. Because of that, a team of scientists from the United States has published a commentary piece in the science journal *Nature*, declaring that the time has come for ceasing discussions about what to do with

plutonium waste and to simply find suitable places for it and bury it.

By most estimates there is currently about 500 metric tons of plutonium in the world today that needs to be disposed of in some sort of reasonable way. By reasonable, most mean in a way that doesn't harm anyone or the environment and that can't be accessed by those wishing to use it to make nuclear weapons. Those writing in the new commentary piece suggest that the only good option is sealing it in ceramic pucks and burying it.

Others aren't so sure, and that's why plutonium is currently being used to create something called Mixed Oxide nuclear fuel (MOX), an alternative fuel source that by all accounts is more costly to use than is simply using fresh alternatives, such as uranium. Still others are using plutonium as fuel for so-called fast reactors; but that doesn't get rid of the [plutonium](#) problem, it just delays having to deal with it.

This is why the commentary group says the best solution is to simply bury the waste and be rid of it. Unfortunately, saying it needs to be done, isn't all that new. Leaders of countries such as the US, France, Japan and others have been trying to do that for decades. The problem isn't that people don't understand that it needs to be done, it's finding a place to dump the waste that people can agree on. As just one example, in the United States, a site was chosen in the Yucca Mountains; its physical characteristics and remoteness suggested it would be an ideal site. The site was approved by Congress in 2002, but opponents of the idea stalled the process and eventually persuaded President Obama to cancel the project in 2009, with the end result being, nuclear waste still temporarily stored in "secure" locations around the country. Thus, the problem isn't that people don't understand what needs to be done, it's that no one wants a nuclear waste dump site anywhere near them, or even in or near areas that are considered special for one reason or another.

By publishing their opinions regarding what needs to be done, this group is hoping that sound minds will eventually prevail, and that reasonable sites will be chosen by responsible people resulting in [nuclear waste](#) being buried sooner, rather than later.

More information: Nuclear proliferation: Time to bury plutonium, *Nature* 485, 167–168 (10 May 2012) [doi:10.1038/485167a](https://doi.org/10.1038/485167a)

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