

## **Rulemaking1CEm Resource**

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**Sent:** Wednesday, December 18, 2013 4:54 PM  
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**SECY DOCKET DATE:** 12/17/13  
**TITLE:** Waste Confidence—Continued Storage of Spent Nuclear Fuel  
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# PUBLIC SUBMISSION

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**Docket:** NRC-2012-0246

Consideration of Environmental Impacts on Temporary Storage of Spent Fuel After Cessation of Reactor Operation

**Comment On:** NRC-2012-0246-0456

Waste Confidence - Continued Storage of Spent Nuclear Fuel; Extension of Comment Period

**Document:** NRC-2012-0246-DRAFT-1008

Comment on FR Doc # 2013-26726

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## General Comment

Because no Government knows how to handle the spent fuel “hot potato” in the long term, the problem has not even begun to be addressed. There is no good long term solution, but we do have a good short term solution, and it immediately creates good productive jobs while making the spent fuel much safer than it is sitting in spent fuel pools.

Dry Cask everything that can be done now. Until the fuels are put into Dry Cask, there is a risk of a regional economy killing event due to power loss/natural diasaster, or terrorist action. There have been far too many close calls in the last few years. Our good judgment in risk control has been decimated by lack of good choices and the hope of a Yucca mountain, always right around the corner.

The numbers are simple, a dry cask can handle about 10 tons of material, and costs between \$1M to \$2M.

There is roughly 60,000 tons of spent fuel in the USA that is not already Casked. USA generates around 2000 tons a year, and it takes 5 years to cool enough to be Casked, therefore  $5 * 2000 = 10,000$  tons have to wait to be Dry Casked, leaving 50,000 tons that could be and SHOULD BE Casked now. At 10 tons per Cask, that is 5000 Casks. Material cost of \$1.5M each, that is \$7.5 B in Cask material cost.

Let's allow 50% of the material cost as a labor cost related to making the slabs the Casks will sit on, and moving the fuel, documentation and testing, or \$3.75B. The security cost of monitoring and protecting the Dry Cask will

be far less than securing the much more dangerous spent fuel pools, so there will out years savings on that cost item.

So the total cost with labor and materials will be around \$11.25B to dry cask everything that can be Dry Casked now. This is about \$225,000 per ton. Let's say the process takes 7 years, an additional 14,000 tons will be created, that's another \$3.125B needed. Or a total of \$14.375B to dry cask ALL of the spent fuel in the USA up to 2020. But keep in mind \$4.8B of that will be going into the hands of US trade workers, who will immediately put that income back into the economy, and create a further economic boost when we need it the most.

In 2013 President Obama commissioned a study on the costs of "doing nothing" and found that Utilities have already sued the US Gov with 80 victories to recover their storage costs because USA did not come through with a Yucca mountain or similar. Direct payouts around \$2B, and further they estimated that as more plants age and close that the USA taxpayers could be on the hook for \$20B in judgments by the year 2020. And up to an additional 20% could be legal and consultants fees, bringing the tab to \$24B

I insist on the immediate transfer of spent fuel rods which have sufficiently cooled for 5 years in the vulnerable pools into more secure, hardened on site, dry cask storage.

Years ago the NRC quietly approved burning the fuel in the reactors longer, resulting in "high burnup" waste, which turns out may not actually be safe for storage or transport. High burnup fuel, and it's excessive thermal and radioactive heat accelerating the degradation of dry cask storage containers, has not been adequately addressed in the GEIS. While the NRC has licensed the storage of "normal" radioactive fuel for up to 50 years, they can't endorse the storage of high burnup fuel for even 20 years. STOP high burn up fuel now.

MOX reprocessing IS NOT an answer. MOX reprocessing is attempting to "burn up" the fuel by removing the plutonium from the spent fuel and concentrating it in new fuel rods to be burned in a nuclear plant. There are 2 problems with this.

1) It is much more expensive to process and create the MOX fuel than it is to simply cask it. A study by Princeton presented April 4, 2008 to Congress estimated that processing MOX including the costs of the MOX facility and decommissioning the MOX facility is about 10 times more expensive than simply Dry Casking.

2) The MOX fuel is far more likely to blow up in a modified nuclear explosion called a Moderated Prompt Criticality. Even in the 1940's it was theorized that a nuclear explosion could happen in a nuclear reactor, and in the 1950's Argonne National Laboratory did a series of experiments that were filmed and proved that even with normal nuclear fuel rods, under the right conditions, and uncontrolled criticality could blow up the reactor. With MOX, enriched with bomb making plutonium, this type of nuclear explosion is much more likely, as Japan found out in their Reactor 3 at Fukushima, which was running MOX. The amount of Uranium detected by the EPA in Saipan, Guam, Honolulu, and California could only be caused by one thing....an explosion from within the reactor vessel, that launched the inventory into the air. MOX can turn a 80 foot tall reactor with 6" steel walls into a "Canon" which can launch the entire inventory.