

Send Postcard

Dear \_\_\_\_\_,

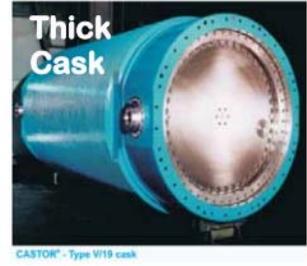
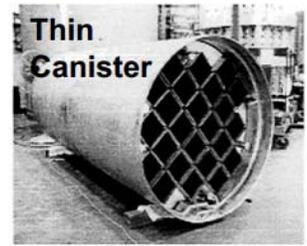
Save California. Don't let Edison spend over \$1.2 billion of ratepayer money on thin 5/8" nuclear waste canisters that may crack within 30 years and cannot be inspected or repaired. They must buy thick casks – up to 20" thick. See SanOnofreSafety.org

Your name

Your address

## Reasons to buy thick nuclear waste dry storage casks

| Safety Features                                | Thin Canisters | Thick Casks |
|------------------------------------------------|----------------|-------------|
| 1. Thick walls                                 | 1/2" to 5/8"   | up to 20"   |
| 2. Won't crack                                 |                | ✓           |
| 3. Ability to repair                           |                | ✓           |
| 4. Ability to inspect exterior                 |                | ✓           |
| 5. Early warning monitor                       |                | ✓           |
| 6. ASME canister or cask quality certification |                | ✓           |
| 7. Defense in depth (redundant systems)        |                | ✓           |
| 8. Stored in concrete building                 |                | ✓           |
| 9. Licensed in U.S.                            | *              | *           |
| 10. Market leader                              | U.S.           | World       |



**Southern California Edison plans to spend over \$1.2 billion of ratepayer funds to store over 1600 metric tons of San Onofre nuclear waste in thin 5/8" steel canisters that may crack within 30 years.** This Holtec UMAX underground system has never been used anywhere in the world. **The Nuclear Regulatory Commission (NRC) plans to license them for 20 years by ignoring known aging problems that may occur after 20 years!**

**Thin canisters cannot be inspected for cracks or corrosion, and they cannot be repaired.** Edison doesn't know if the current 51 San Onofre thin canisters (Areva NUHOMS) are cracking. And there is no early warning system BEFORE radiation leaks into the environment.

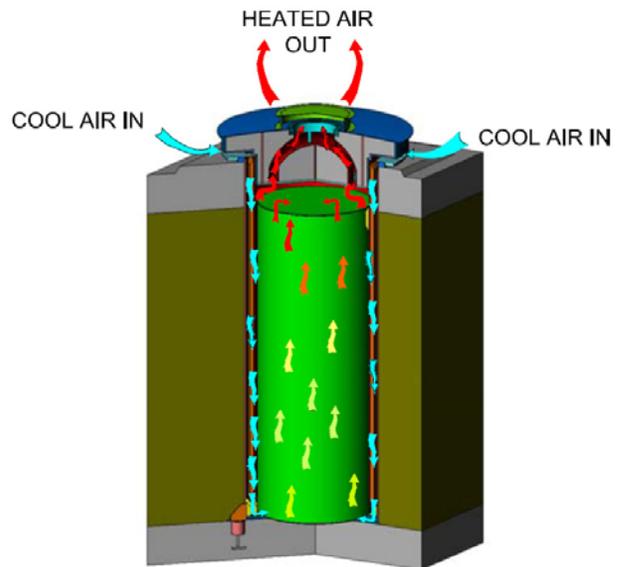
**Urge the Governor and California Public Utilities Commission (CPUC) to require thick casks that won't crack,** such as the German ductile cast iron casks. The CPUC should deny

funds for thin canisters. Thick casks are **up to 20" thick** and do not have the thin canister problems. Thick casks are what most of the rest of the world uses.

**No funds exist to replace canisters once they fail.** Ratepayers will likely be stuck paying billions more for replacements.

**Edison refuses to allow thick cask vendors to bid.** Edison says the thick casks do not have a Nuclear Regulatory Commission (NRC) license. Siempelkamp, the leading thick cask maker internationally, will only apply for an NRC license if Edison wants their product, because the NRC approval process costs millions of dollars and takes 18 to 30 months. The NRC has never denied a vendor license. Edison also says they will need to buy some new equipment to use the thick casks. Siempelkamp said that is not a problem for them, so why should it be for Edison?

**The Holtec UMAX underground system has air vents** for convection cooling of the hot radioactive waste. With a through-wall crack in the canister (green cylinder in drawing), air flow will aid the flow of radiation into the environment and air flow increases the flow of corrosive moist salt air over the thin canisters. A concrete base is required for gamma and neutron protection and holds the thin canisters underground. The underground portion of the concrete system cannot be inspected and is subject to moisture and chemical corrosion. A different Holtec underground system was installed at Humboldt Bay in 2008 for 6 canisters. It does not have air vents, but has had problems with water leaking between the canister and concrete base.



Holtec UMAX system

**The NRC said stainless steel components similar to the thin canisters have cracked within 11 to 33 years.** And the hotter the fuel in the canisters, the quicker the crack will go through the wall of the thin canisters. A thin canister at the Diablo Canyon nuclear plant was found to have conditions for cracking after only two years in use. Holtec's president, Dr. Singh, said millions of curries of radiation can be released with even a microscopic through-wall crack.

All thin canisters are enclosed in concrete for protection from gamma rays and neutrons. **Thick casks have been used internationally for over 40 years and do not need concrete for radiation protection.** However, most other countries, such as Germany and Japan, house the thick casks in buildings for added environmental protection.

**Thick casks have American and International quality manufacturing certification.** Holtec does not even meet American (ASME) manufacturing standards.

**Thick casks have continuous remote monitoring for potential helium and radiation leaks.** Thin canisters do not. The NRC only requires a person walk around with a monitor on a stick every 3 months to see if they are leaking radiation. Thin canisters have temperature remote monitoring, but this does not provide early warning before a radiation leak.

**San Onofre's nuclear waste is stored in pools and thin canisters near the San Diego and Orange County border by the ocean – less than 50 miles from Los Angeles.** San Onofre's waste pools eventually need to have fuel removed, but not into inferior canisters that will likely leak radiation short-term and with no warning.

**Similar thin canister designs are used around the country and in California** at San Luis Obispo at the Diablo Canyon nuclear power plant, in Sacramento County at Rancho Seco and in Humboldt County at Humboldt Bay.

**It is unlikely the nuclear waste will be relocated elsewhere for decades, if not longer, given the hundreds of political, technical and legal obstacles.** The Department of Energy is supposed to take the waste, but they have no where to put it. No communities want the waste. Many pending legal, political and technical battles remain and this has been the case for decades. The NRC has acknowledged that San Onofre and all other power plant nuclear waste may need to stay at existing locations for decades or centuries or indefinitely.

**If cracking canisters are moved, it puts all of us at risk.** Existing nuclear waste must be moved to thick casks before it can be moved. And there is no seismic rating for a cracked canister.

See government and technical references, and additional information at [SanOnofreSafety.org](http://SanOnofreSafety.org).