

# THE “PENDLETON OPTION” FOR SAN ONOFRE WASTE



## **PROBLEM: 3.6 million pounds of extremely toxic heavy metal waste on the beach**

1. The waste on the beach is a ridiculous idea -- probably the worst place, not the best.
2. It is only about 100 ft from the seawall and only inches over the high-water mark.
3. It is too easy for terrorists to access.
4. It is too close to the delicate ecosystem of the ocean and is in a tsunami inundation area.
5. It is next to the second most traveled railroad in the nation and Interstate 5, the only N/S link for miles.
6. It is near millions of people and there are dense neighborhoods under 2.5 miles away.
7. The Newport-Inglewood-Rose Canyon fault complex is within 4 miles of the site and is estimated to be capable of a 7.4 magnitude quake.
8. There is really nothing good about this site from a safety standpoint. Saving a few dollars now is not worth it.

## **The usual alternatives are not available and/or unacceptable**

1. Yucca Mountain was supposed to be the ultimate destination, and it was supposed to open in 1998. As it turns out, the site is not open nor is it at all the right geology for a permanent site, and Nevada wants no part of the project. Even if it were open, the waste is far too hot to intern there without the need for giant ventilation fans for probably 150 years. That hardly makes a lot of sense, but indeed it was in the original plan for the site.
2. Current thinking is to move it thousands of miles to New Mexico or Texas to a "Consolidated Interim Storage" (CIS) storage facility, such as the one in New Mexico named "Eddy-Lea".<sup>1</sup>
3. There is a great deal of push-back in NM and TX in terms of accepting this waste. The new NM governor intends to block the project, and there are concerns about sink-holes and potash mines.
4. We have learned how difficult it is to handle these 50-ton canisters in the August 3, 2019, San Onofre Canister Drop Incident, where a 50-ton canister ws nearly dropped 18 feet<sup>2</sup>. The Holtec vaults are only about 1500 ft from the spent fuel pools, and they almost lost control of a canister with possible devastating results. Moving them 1350 miles by rail to a New Mexico destination, for example, is about 4800 times further. How can anyone suggest SCE be trusted to move them 1350 miles when they can't control a canister when moving it only 1500 feet.

## **SOLUTION: Keep the waste at Camp Pendleton, inland 5 miles and to a higher elevation**

1. Moving the waste to a higher elevation and away from the coast but still in Camp Pendleton will remove it from most of the hazards of the current location. It is recommended that it be moved at least five miles from the coast to reduce terrorist threat, risk to the rail and freeway corridor, risks to dense populations, and to reduce corrosion risk (as inland will reduce the salt content of the air.) Please note

1 <http://copswiki.org/Common/M1844>

2 <http://copswiki.org/Common/SanOnofreCanisterDropIncident>

that the exact location would need to be determined with much more investigation regarding geology, access, and all other normal constraints.

2. The route to the proposed site about 5 miles from the coast will use local roadways, mostly within Camp Pendleton, and therefore away from high populations, the general public, and terrorist interception. Most of the road already exists, but it will likely need to be improved to handle the weight of a single canister with its protective overpack. The last mile or so of the road would need to be newly constructed.
3. The total transportation distance is about 10 miles for the suggested site. If moved at only 2 miles an hour, this distance can be accomplished in only one day for each canister. Thus, all 125 canisters, in theory, could be moved in only 4 months instead of 4 years. The total cost to move the waste would be far less than transporting it 1350 miles.
4. If both Greenland and Antarctica both fully melt, sea level is predicted to rise no higher than about 230 feet<sup>3</sup>. Therefore, site should be at least that high. Proposed sites in Camp Pendleton over five miles inland are over 450 feet in elevation. The "Mesa", just across the freeway from the plant and previously used by SCE for offices and other buildings, is only about 100 ft in elevation, and thus is too low for a long-term location (although it is certainly better than being right next to the water).
5. The earthquake threat is not avoided at this location. However, moving inland five miles more than doubles the distance from the Newport-Inglewood-Rose Canyon fault complex and that should reduce this risk substantially although not entirely. We also found no other possible site in CA that had very low seismic risk.
6. Camp Pendleton is a military base and is not heavily populated. Military personnel can be utilized to provide security and it will be a convenient security training opportunity.
7. The ultimate mission of the military is to protect the public from threats. Since our venture into nuclear energy was brought on by the development of nuclear weapons, it is only proper and fair for the military to take on the responsibility of protecting the waste at this site.
8. Moving the waste to this site will provide the opportunity to improve the canisters to a "thick" two-layer system utilizing a pressurized outer shell that can be easily inspected for leaks and replaced if the outer shell is compromised. This will allow the design life of the cask system to be easily pushed to over 1,000 years instead of only 40 and become HELMS compliant.<sup>4</sup>
9. The older waste uses stainless steel cladding. These cannot be moved until 2030 by rail, but they can probably be moved much sooner if it is transported slowly and on isolated roadways and not on public thoroughfares. The same is true for high-burnup spent fuel.
10. Keeping the waste within state and preferably within the service area of the people who received the benefit of the power is a responsible way to deal with the waste rather than pawning it off on someone else.
11. If deep borehole technology continues to be developed utilizing oil-well drilling technology<sup>5</sup>, a site within Camp Pendleton may be suitable to place the waste underground without the risk of moving it thousands of miles to a CIS site first. This option is compatible with that possibility.

**NO PLACE IS PERFECT. BUT THIS IS THE BEST SOLUTION TO REDUCE MOST THREATS WHILE AVOIDING OTHERS. PLEASE HELP USE PROMOTE THE "PENDLETON OPTION"**

**Please visit this link for more information:** <http://www.copswiki.org/Common/M1908>

**WE NEED YOUR HELP.** [CitizensOversight.org](http://CitizensOversight.org)

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3 For more information on sealevel rise, see "Sea Level Rise Can No Longer be Stopped, what next?" at <https://youtu.be/MvqY2NcBWl8?t=2131>

4 <http://copswiki.org/Common/HelmsProposal>

5 See <https://www.deepisolation.com>