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Att: May Ma

Ref: NUREG-2224 Dry Storage and Transportation of Nuclear Waste

My background is that of an Electrical Engineer with a Masters Degree in Business; I am not a Nuclear Engineer. However, I believe I am qualified, as a resident who lives within 22 miles of the proposed nuclear waste dump at San Onofre, to comment on the dry storage implementation at this site and the potential danger it imposes on the lives of 8-1/2 million people residing with 50 miles of this site.

I am being told that this site is temporary, yet no feasible permanent storage site has yet been located, nor has there been any reliable estimates regarding when such a site will become available.

There is approximately 1,600 tons of waste being stored at the San Onofre site and no one can say how long it will be there. Currently, there is a mix of low and high burn level waste that has been stored on site for over 15 years in canisters that have been guaranteed by their manufacturer for only 20 years. Recent radiation measurements indicate that there may already possibly be some leakage occurring, although the NRC and the responsible power company, namely Southern California Edison, (SCE) refuse to disclose what they know about recent radiation measurements.

Edison is now in the process of transferring the last of the fuel rods from wet storage to dry storage. All of this waste is from high burn fuel and there is no data available to fully identify what effect this waste will have on the integrity of the canisters being used. Are they safe for 20 years? 40 years? During this time, will cracks appear? Cracks would prevent such canisters to be moved, resulting in San Onofre becoming a permanent waste storage site. Since a single canister has more radioactive Cesium 137 than was released in total at Chernobyl how can the NRC, in good conscience, allow for storage in a system totally unsuitable for long term storage? Can the canisters be inspected? Very doubtful. Can they be repaired if a crack should occur? The manufacturer says **NO.** No is not my answer but that of the manufacturer! What remediation has been provided in the event there is leakage? To my knowledge, none.

The fact that the canisters are being stored about 100 feet from the Pacific Ocean leaves open the question of the effect that the proximity to salt air will have on the

canister's life. Furthermore, storing the canister in a concrete silo just feet above the high water mark invites future failure. The oceans are rising due to global warming and if no future storage site is identified, there is increased risk of water penetration, which could result in a catastrophic event. Although the likelihood of a tsunami is low, it is still a possibility. It has happened before and must be considered as part of a risk evaluation.

The existence of faults surrounding the plant further exacerbate the possibility of a failure.

Another risk consideration is the ease by which terrorists could destroy the site by an air attack of launching rockets or drones from the sea. In a way, we have been fortunate when it comes to terrorist attacks. Had the World Trade Center terrorists chosen the waste storage tanks at Indian Point, New York City would be a waste land today and 17 million people would have been displaced.

During the transfer of the rods into the canisters, several disturbing events have occurred. The first was the loose bolts which caused SCE to stop using the latest canister design and to go back to an older design. Since they have never previously removed the fuel rods from a loaded canister, they decided to do nothing to remediate the problem. The possible future ramifications of this decision is unknown. Then, during loading of the canisters into the silos, they came close to being dropped from a height of 18 feet. Twice! Had it not been for a whistle blower, these events, contrary to NRC regulations, would not have been reported. Taking into consideration that these canisters are a mere 5/8" thick, this could have resulted in a major nuclear disaster, forcing the evacuation of a 50 mile radius around the plant and essentially the loss of Southern California for centuries to come.

We have been lucky, but when it comes to dealing with this waste, we cannot afford to rely on luck. California has the fifth largest economy in the world and a large portion of that wealth lies within the 50 mile radius surrounding San Onofre. Such a catastrophic event would have had a profound impact on the entire economy of the country.

The consequences of failure of any type far outweighs the risks the NRC is willing to take.

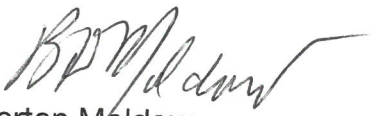
It is for this reason that I hope the NRC will stop any further transfer of waste fuel from the cooling tank at San Onofre and insist that all future waste rods be stored in far sturdier canisters similar to those being employed in Germany. These canisters are inspectable and repairable. They are 15 times or more thicker and will allow a lot more time for a permanent solution to be found in dealing with the waste. If the existing canister cannot be unloaded for repackaging then they should be encapsulated into larger canisters of the type described. The cost for such action would be negligible compared to the potential trillions of dollars in lost properties and GDP, as well as the impact on peoples's health. These canisters can then be stored within the existing domes, currently planned for demolition, in a controlled environment where they can

constantly be monitored and repaired when necessary. They will also be far more secure from a terrorist attack.

If we have not found a permanent site within the next 30 to 50 years, we need to consider finding alternative sites away from high density population centers. Ideally, such sites should be away from moist regions and located where security can be assured. One such site would be the navy's China Lake military base in the high desert of California. We would only need several acres of over one million acres available. This site has a large secure fly zone and a very low density population.

To reiterate, storing high burn rate nuclear waste in a 5/8" thick canister and placing it in a concrete silo 106' from the ocean a few feet above the high water mark where it cannot be observed nor repaired in the event of a crack is plain idiocy. Even if it costs another billon dollars to remediate the existing situation, this would be a pittance compared to the cost of a failure due to any one of the events described. The NRC needs to step up and do the right thing and stop any further effort to complete the storage procedures in effect by SCE. The lives of millions of people are at stake, as is the economy of the country.

Sincerely,



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