Subject: TO CEP: Implications of cracked canisters [RETRY]
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Date: 12/11/2017 9:38 AM
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TO: CEP
SUBJ: Implications of cracked canisters (and other emergencies).

At the Sept CEP meeting, I asked that some evidence be provided to support the assertion that cracked canisters would be of low risk to the community. At the last meeting, a reference was provided from 1987 which purports to provide safety information on various radiological accidents.

https://www.nrc.gov/docs/ML0620/ML062020791.pdf

NUREG 1140 - "A Regulatory Analysis on Emergency Preparedness for Fuel Cycle and Other Radioactive Material Licensees"

There is a small section on dry storage on page 73 (Page 59 based on printed page numbers).

Part of the analysis to substantiate the concept that dry storage is not dangerous is a review of the "Accident History". Of course, being 30 years ago makes it difficult to accept this as adequate. There is no mention of cracks in canisters as an accident source term. There is no review of recent large earthquakes nor of course any mention of issues related to Fukushima review. Terrorism, now more fully accepted as an issue after 9/11 is not considered.

Secondly, the issue of Chloride-induced stress corrosion cracking was only recently accepted as a problem. The NRC Pilot Probability Risk Assessment for dry storage in 2007 {

> NUREG-1864, “A Pilot Probabilistic Risk Assessment Of a Dry Cask Storage System At a Nuclear Power Plant” https://www.nrc.gov/docs/ML0713/ML071340012.pdf (2007)

said there would be no cracking at all. Between about 2010 and 2016, the NRC had a special review of their regulation based on this newly accepted problem. The new MAPS document which is out for review right now is part of the attempt by the NRC to add sufficient administrative controls to monitor any cracking that may occur, now that it is accepted as a problem.

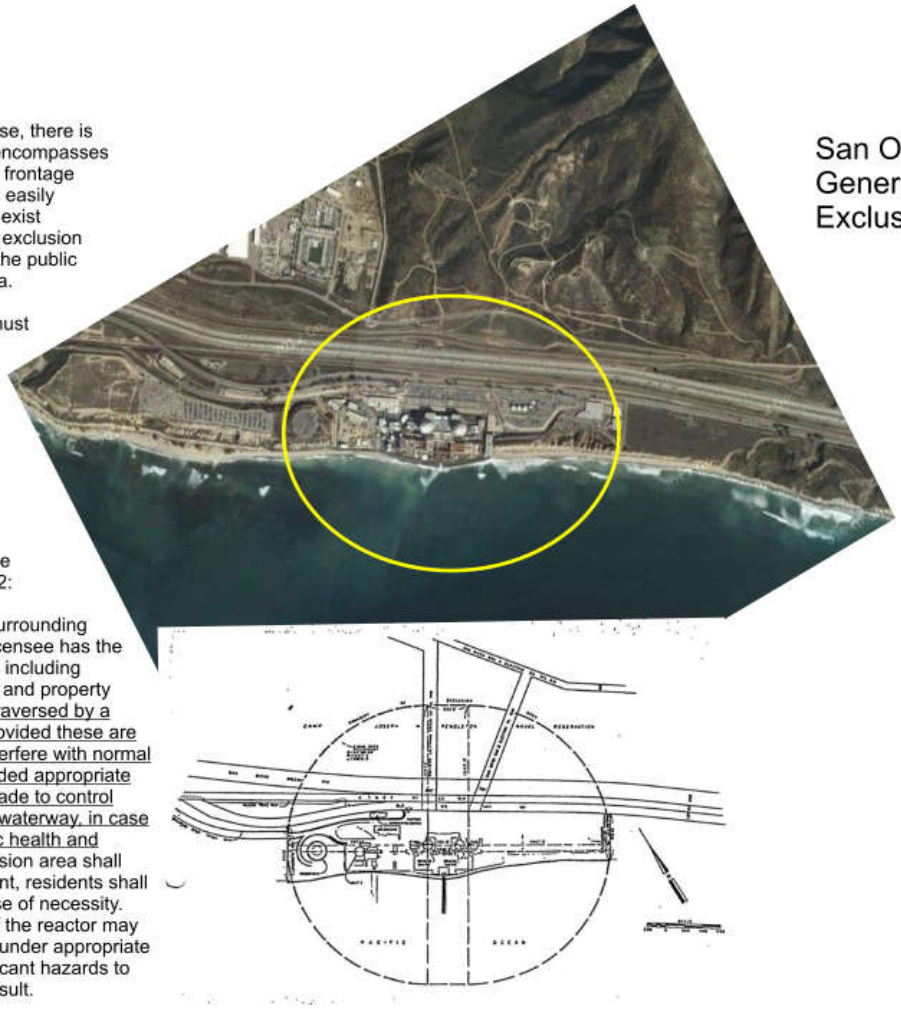
Since NUREG 1140 was written long before there was any acceptance that this is an issue at all is another reason it is inadequate.

The analysis of any releases and the impact on the community assumes the facility is appropriately isolated. However, the in case of San Onofre, the ISFSI is too close to the public, and the plant does not have an appropriate exclusion zone, as the beach and freeway, rail, penetrates it. Therefore, generic calculations for dose are not applicable.

According to 10 CFR 72.106

> The minimum distance from the spent fuel, high-level radioactive waste, or reactor-related GTCC waste handling and storage facilities to the nearest boundary of the controlled area must be at least 100 meters.

But we know the sea wall is only about 30 meters from the ISFSI. Therefore, it is in violation of this rule.



The diagram above is excerpted from the San Onofre operating license, and the map above it is the approximate outline when showns on a satellite map.

To make matters worse, the exclusion zone as calculated from a 1980s NRC document says the exclusion area should actually be more like 1km, which is about to the gates of the south state park and encompasses all of the popular beach area to the north. Unfortunately, SCE and San Onofre has violated the trust of the public by allowing the public to get very close to the plant. Again, the dose calcs ASSUME no one is in the exclusion area and a member of the public is NO CLOSER than the exclusion area. So those dose calcs are optimistically too low.

"Technical Information Document 14844 (http://www.nucleartourist.com/events/TID-18444.pdf) provides some sample calculations for various reactor sizes. For example, for a 1000 MWth Reactor, they calculate the exclusion area should be 0.67 mi (3537 ft, 1.078 km), low population zone, 10.3mi, and population center distance of 13.7mi. Unfortunately, many plants have been licensed with FAR SMALLER footprints, such as San Onofre which twice the size of the reference plant, and yet has a minimal exclusion area, with a super freeway, rail, and publicly accessible beach area within it. "

Therefore, I would like to suggest that the response by SCE to the question to provide evidence about the risks of cracked canisters is inadequate.

We also see this: https://www.gao.gov/assets/660/652933.pdf
From March, 2013: The GAO Says: "
EMERGENCY PREPAREDNESS NRC Needs to Better Understand Likely Public Response to Radiological Incidents at Nuclear Power Plants"

It says:

> the jurisdictions near the San Onofre Nuclear Generating Station in San Clemente, California, work together on a regional, interjurisdictional planning committee to jointly develop plans and policies and to decide on radiological emergency preparedness.

What is that planning committee? Because it can't be the CEP because the CEP can't develop plans and policies or decide anything. Please INVITE the interjurisdictional planning committee to provide a report to the CEP.

--Ray Lutz

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