Statement from Southern California Edison re Public Watchdogs News Release
Feb. 4, 2020 FINAL

Statement

Southern California Edison continues to safely store spent nuclear fuel on site, and will do so until the Federal government licenses an off-site facility that the fuel can be moved to.

The Public Watchdogs' documents contain multiple errors. For instance the outside shell of the warmest spent fuel storage canister on site is approximately 225°f., not an average of 452°f. This one fact alone undercuts the entire "geyser" narrative. Water is a better conductor of heat than air and actually would serve to more efficiently cool the canisters.

We encourage people in our local communities to take a tour at the site and see it for themselves, or learn more about spent nuclear fuel storage at San Onofre by visiting our website, www.SONGScommunity.com.

Background

Public Watchdogs is misinterpreting the results of a beyond design basis event evaluated in 2013 in response to the Nuclear Regulatory Commission's Fukushima Orders.

SCE has analyzed both events contemplated in the Public Watchdogs news release, and the petition, and additional information is provided below.

Flooding

SCE has always maintained a flooding analysis for the SONGS site. It is required to be kept current as part of the fundamental design and licensing basis of the SONGS site. It's based on what is characterized as a design basis Probable Maximum Precipitation (PMP) event in which the surface water from local intense precipitation flows to and through the site, including the areas occupied by the dry fuel storage systems. This was revisited to reflect the location of the expanded (Holtec) dry storage system on an elevated berm located in what was historically referred to as the North Industrial Area (NIA) of the site. Both depth and water velocity were conservatively estimated and shown to remain within the Holtec UMAX Design and Licensing Basis. The maximum flood elevation is approximately 21 feet (9 feet below the top of the pad of the Holtec system). The flow velocity was confirmed to be well below the 15 feet per second limit as well.

Similarly, SCE updated the maximum level of the run-up from a tsunami and wave action. The most recent computer generated post-Fukushima model reached 22 feet. This is below the Current Licensing Basis value of 27 feet. Both are well below the dry fuel storage top pad.

Regardless of source, it is unlikely the dry fuel storage system would be flooded. Additionally, the Holtec storage system is licensed to be submerged by 125 feet of water and maintain its confinement boundary. The TN-NUHOMS system is licensed to be submerged by 50 feet of water and maintain its confinement boundary.

Bluff Collapse

SCE did, in fact, review the possibility of bluff collapse (or any other source of burial under debris) as part of our evaluation of the suitability of the SONGS site to support the Holtec storage system's Design and Licensing Basis. There are no local structures which could produce a burial-under-debris event. The bluffs to the north and east of the Holtec system have been evaluated for failure and soil runout, and the system would not be adversely affected by the soil runout in the event of a slope failure. The maximum lateral impact reaches the base of the berm but does not over-top it. This analysis was included in the 2015 Coastal Development Permit granted by the California Coastal Commission for the expanded (Holtec) dry storage system.

So what would happen if water interacted with the canisters?

If we were to ignore the fact that the pad could not be flooded and simply assume it might be, the consequences are not nearly as imaginative or significant as proposed in the Public Watchdogs petition.

1. The water would enter the inlets of the vertical ventilated module lids and flow down the annular region between the cavity enclosure container and the divider shell.
2. The water would collect on the bottom of the storage "vault" and begin filling the inner annulus between the divider and canister.
3. As it reaches the bottom of the canister it would heat-up, and perhaps experience some level of boiling, likely not, depending largely on the fill-rate. It would be more akin to heating a pot of water for spaghetti, rather than a geyser. Plus, the temperature of the canister surface would begin cooling immediately, since water is a better conductor of heat than air.
4. As the annulus fills, the heat-up (and concurrent cooling of the canister walls) would produce relatively gradual change to both temperatures. *In no case could any amount of water filling from beneath cause a thermal gradient that would produce anything resembling thermal shock.* The material of canister construction (316L stainless steel) is not prone to brittle fracture, even at temperatures much higher than those contemplated by Public Watchdogs. Thus, the canister would be well-cooled and its integrity would remain intact.
5. The annular regions are open at the top, designed to direct air flow so there is no possibility of pressurization (or geyser effect).
6. If this non-credible event were to occur, it would be expected to result in flushing the cavities to remove any residual debris emanating from the flood water, a reasonably straightforward process.