



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 30, 2020

Mr. Charles Langley
Executive Director
Public Watchdogs
7867 Convoy Court
Suite 302
San Diego, CA 92111

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SEPTEMBER 1, 2020, RESPONSE TO PETITION REQUESTING ENFORCEMENT ACTION UNDER SECTION 2.206 OF TITLE 10 OF THE *CODE OF FEDERAL REGULATIONS* AGAINST SOUTHERN CALIFORNIA EDISON RELATED TO DECOMMISSIONING OPERATIONS AT THE SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 AND 3

Dear Mr. Langley:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to the letter to me dated November 2, 2020, regarding the NRC's decision to close the February 4, 2020, Public Watchdogs Title 10 of the *Code of Federal Regulations* (10 CFR) 2.206 petition related to the decommissioning operations at the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3. The November 2 letter provided a formal supplement to the original petition and requested that the original petition be accepted. The letter also requested that the NRC order Holtec International, Inc. (Holtec) and Southern California Edison (SCE) to provide an analysis of a flooding event where all 73 Vertical Ventilation Modules (VVMs) are completely submerged with water and debris, including a description of the recovery from such an event. Additionally, the letter raised numerous concerns and questions that were provided in an attachment titled "DECLARATION OF PAUL BLANCH." The NRC takes its responsibilities to thoroughly and accurately assess issues raised under the 10 CFR 2.206 process seriously, and we appreciate your interest in the process and the safety of the facilities we regulate.

The NRC's 10 CFR 2.206 process includes provisions for petitioners to submit supplements to a petition while the petition is open and is under review. Indeed, the supplements that were submitted during the acceptance review of the Public Watchdogs original petition were duly reviewed and discussed in a public meeting with the petitioner and subsequently used in the staff's assessment and evaluation of that petition. However, the NRC issued a letter dated September 1, 2020, informing Public Watchdogs that its February 4 petition was not accepted and was considered closed, and there are no provisions in 10 CFR Part 2 or in Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions," to receive or review a formal appeal or a supplement to a petition that has been closed. Specifically, MD 8.11 and Handbook (Agencywide Documents Access Management System (ADAMS) Accession No. [ML18296A043](#)), Section III.I (Supplements to the Petition), does not include provisions for submittal or review of supplements after a petition is closed.

The staff has reviewed the November 2, 2020, submittal and determined there are no safety issues that require immediate action. We have also confirmed that the issues raised in the submittal were fully addressed in our letter dated September 1, 2020, which documented the

basis for closing the original petition. We note that the staff has considered and analyzed the consequences of the events described in the attachment to your letter and found that the design and technical specifications of the storage casks are protective of public health and safety. Furthermore, based on its review of the latest submittal the staff determined that the concerns raised are duplicative of the issues that have already been fully addressed in the original petition and documented in the NRC September 1, 2020, letter. More specific responses to the concerns about the flooding analysis and other questions in the November 2, 2020, submittal are provided in an enclosure to this letter.

I would also like to take this opportunity to share some notable provisions in the NRC's guidance on the 10 CFR 2.206 process, included in NRC's MD 8.11 and Handbook cited above. It is the policy of the NRC to provide any person with the means to request that the NRC institute a proceeding pursuant to 10 CFR 2.202, "Orders," to modify, suspend, or revoke a license, or other enforcement-related action that may proper. This policy is codified in 10 CFR 2.206, "Requests for Action Under This Subpart." The NRC may grant a request for action, in whole or in part, take other action that satisfies the concerns raised by the requester, or deny the request. The assessment and review of 2.206 petition submittals follow a well-defined, structured, and open process. The assessment and review of 10 CFR 2.206 petition submittals are performed by independent Petition Review Boards (PRBs), and all meetings with the petitioner are open to the public.

To conclude, we are not reopening the February 4, 2020, petition and the prior decision on the original petition is final. Although we have responded to the concerns that were raised in the November 2, 2020 letter, we consider our decision not to accept the original petition, as expressed in our letter of September 1, 2020, to be final, for the reasons we have previously provided.

A copy of this response has been provided to the NRC's Office of the Inspector General.

Sincerely,

Kevin Williams, Director
Division of Materials Safety, Security, State,
and Tribal Programs
Office of Nuclear Material Safety
and Safeguards

Enclosure:
NRC staff response to concerns about the
flooding analysis and other questions included in
"DECLARATION OF PAUL BLANCH"

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S SEPTEMBER 1, 2020, RESPONSE TO PETITION REQUESTING ENFORCEMENT ACTION UNDER SECTION 2.206 OF TITLE 10 OF THE *CODE OF FEDERAL REGULATIONS* AGAINST SOUTHERN CALIFORNIA EDISON RELATED TO DECOMMISSIONING OPERATIONS AT THE SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 AND 3

DATED: NOVEMBER 30, 2020

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***via email**

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NRC Staff Response to Concerns about the Flooding Analysis and Other Questions Included in “DECLARATION OF PAUL BLANCH”

Flooding Analysis

The flooding concerns raised in the attachment to Public Watchdogs’ November 2, 2020 letter were addressed in the U.S. Nuclear Regulatory Commission’s (NRC’s) letter dated September 1, 2020 ([ML20216A610](#)). The staff response in that letter specifically included a synopsis of the flood analysis found in UMAX final Safety Analysis Report (FSAR) ([ML18192B094](#)), Section 4.6.2.5, which was redacted from the public version of the UMAX FSAR. The NRC response was derived from the flood analysis provided in UMAX FSAR Tables 4.6.9 and 4.6.10 which shows the results for two cases where flood waters inside the cavity enclosure container (CEC) partially block air flow through the cut outs located at the lower portion of the divider shell and eliminate or significantly reduce heat transfer from the multipurpose canister (MPC) to the water in the partially flooded CEC. As noted in the NRC response, the results of the analysis were compared to the UMAX storage systems design pressures and allowable component temperature. The results show that:

- The peak cladding temperature remains below the normal condition temperature limit of 400°C and far below the accident condition limit of 570°C.
- All other component temperatures also remain below the normal condition limits.
- The MPC pressure remains below the design/long-term normal pressure limit and well below the accident pressure limits.

Therefore, the effects of inundation of the San Onofre Nuclear Generating Station (SONGS) Independent spent fuel storage installation (ISFSI) with floodwater and, specifically, the impact of such conditions on the spent fuel canisters, have been evaluated and addressed in the UMAX dry cask storage system FSAR. Additionally, for a radioactive release that exceeds regulatory safety standards to occur, a breach of a spent fuel canister at the SONGS ISFSI would need to occur. The storage canisters used in the UMAX storage system at the SONGS ISFSI are manufactured from austenitic stainless steels, which are highly resistant to corrosion and not susceptible to thermal shock, therefore, the canisters would remain intact for the water and/or debris flooding accident events postulated in the petition (coverage by debris is expounded upon below). The NRC staff reviewed the FSAR for the UMAX system and found that the system meets all applicable NRC regulations for both structural and thermal aspects of the storage system design.

The analysis in the UMAX FSAR was conducted as a bounding analysis for the system for use by any general licensee. The results of that analysis in the UMAX FSAR are applicable to any and all UMAX systems at any general licensee’s site. As stated on page 4 of the NRC response, “[T]herefore, the effects of inundation of the SONGS ISFSI with floodwater and, specifically, the impact of such conditions on the spent fuel canisters, have been evaluated and addressed in the UMAX dry cask storage system FSAR.”

As noted in the NRC response, the general licensee drafted a 72.212 report that requires the general licensee, prior to using a design Certificate of Compliance (CoC) listed in Title 10 of the *Code of Federal Regulations* (10 CFR) 72.214, to evaluate the reactor site parameters and determine that the dry storage system, once loaded with spent fuel, will conform to the terms, conditions, and specifications of a CoC. The NRC response to the potential landslide concern

notes that NRC reviewed the general licensee's 72.212 report drafted by Southern California Edison which included a specific assessment of a burial under debris event that considered structures and geologic features at the site and determined that the UMAX ISFSI at SONGS would not be buried under debris. Furthermore, we note that the staff has considered and analyzed the consequences of the events described in the attachment to your letter and found that the design and technical specifications of the storage casks are protective of public health and safety.

In addition, we further note the NRC staff response in the above letter provided a comprehensive response that addressed the following specific concerns raised in the February 4, 2020 10 CFR 2.206 petition:

- Unanalyzed risk and imminent threat resulting in rupture of multiple casks [Holtec multipurpose canister (MPC)-37 canisters] due to thermal shock.
- Canister integrity and possible rupture due to thermal shock.
- Criticality due to the introduction of sea water into the fuel. According to the Holtec Final Safety Evaluation Report (FSAR), criticality may occur with the introduction of non-neutron absorbing water (water without boron).
- Saltwater inundation. Sea water, with its unknown composition, may introduce additional unanalyzed nuclear interactions due to neutron and gamma flux and possible criticality.
- Potential overpressure due to steam formation has not been considered.
- No means to detect water level that may accumulate due to condensation or external flooding events.
- Inability to retrieve damaged canisters: Canister deformation and radiation levels may prevent removal of the MPC-37s.
- Lack of Emergency Planning -and- No procedures for Emergency Planning.
- Long term and irreversible corrosion.
- Major radiation releases to the environment.

In each case the analysis reviewed by the NRC staff confirms the system can maintain its safety functions.

Other Questions

NRC staff response to questions (Item 19 in the "DECLARATION OF PAUL BLANCH" attachment) to the November 2 letter) is provided in the following table:

<u>Question in Item 19 in “DECLARATION OF PAUL BLANCH”</u>	<u>NRC Staff Response</u>
<ul style="list-style-type: none"> • What are the consequences of heat transfer and the effect on fuel temperatures should a loss of helium occur? 	<p><u>Response:</u> The Holtec multipurpose canister (MPC) used in the UMAX system was evaluated under normal, off-normal, and credible accident conditions. These evaluations, included in the HI-STORM FW FSAR (ML19177A171) and the UMAX FSAR, show that loss of the confinement boundary is not credible under any normal, off-normal, and credible accident conditions. In addition, each MPC is helium backfilled and leak tested to assure that the MPC is leak tight prior to being placed in service. Therefore, loss of helium is not a credible event.</p>
<ul style="list-style-type: none"> • Is criticality a possibility should an MPC become breached and flooded by seawater? 	<p><u>Response:</u> This item was addressed in the NRC response dated September 1, 2020 under page 7 concerns 2 and 3.</p>
<ul style="list-style-type: none"> • What are the consequences if all 73 VVMs are flooded and cannot be returned to operable status within eight or 32 hours? The UMAX FSAR provides the Bases and the Technical Specification bases for the Holtec Hi-Storm UMAX Canister Storage System for the ISFSI at San Onofre. The Hi-Storm UMAX System FSAR Appendix 13.A Section B.1of the Technical Specifications states: <i>“If the heat removal system has been determined to be inoperable, it must be restored to operable status within eight hours. Eight hours is a reasonable period of time to take action to remove the obstructions in the air flow path”</i> 	<p><u>Response:</u> This item was addressed in the NRC response dated September 1, 2020 under page 7 concerns 2 and 3.</p>
<ul style="list-style-type: none"> • How long can the canisters and spent fuel survive before exceeding limits? If no action is taken because of delay or site inaccessibility within 32 hours, what are the consequences? 	<p><u>Response:</u> This item was addressed in the NRC response dated September 1, 2020 under page 7 concerns 2 and 3.</p>

<ul style="list-style-type: none"> Is the planned response reasonable? Can the mitigative actions of the Technical Specifications be implemented reliably? Will they work? Can they be performed by personnel available on site within the required timeframe? If not, what is the backup plan? 	<p><u>Response:</u> Technical Specifications are part of the enforceable certificate, and compliance with the technical specifications is inspected by the NRC.</p>
<ul style="list-style-type: none"> How are off-site first responders trained? If relying on offsite response, are plans in place to gain access to the site? Will the Licensee grant them access? How have the responders been trained? Are they in standby to respond within the required period of time? 	<p><u>Response:</u> The ISFSI Emergency Plan states that non-licensee organizations that may provide specialized services during an emergency (i.e., law enforcement, firefighting, rescue, medical services, and transport of injured personnel) are provided or offered site-specific emergency response training, annually. SONGS or Non-SONGS personnel who are brought in to assist with response, mitigating, or recovery actions who have not received emergency planning overview training will receive Just-In-Time training prior to performing response actions. This includes training on radiological hazards and Visitor/Escort responsibilities for personnel who are not badged for unescorted ISFSI Protected Area access.</p>
<ul style="list-style-type: none"> Will jurisdictional conflicts delay first responders? SONGS is located in the northernmost edge of San Diego County and a few hundred feet from the Orange County line on a Marine Base, in a State Park. How has First Responder jurisdiction been prioritized? 	<p><u>Response:</u> The ISFSI Emergency Plan states that fire, rescue and ambulance services are provided by the United States Marine Corps Camp Pendleton Fire Department. Law enforcement services are provided by the Federal Bureau of Investigation and local public entities. Medical services are provided by Mission Hospital Regional Medical Center in Mission Viejo, California. Letters and memoranda of agreement are maintained with the local responders.</p>
<ul style="list-style-type: none"> Is the recovery equipment staged? Is the equipment protected and maintained by qualified personnel? Is an adequate water supply being provided along with pumps sufficient to simultaneously needed to remove cooling blockage? Are pumps and hoses staged to remove blockage? 	<p><u>Response:</u> The ISFSI Emergency Plan identifies and describes the emergency response facilities, the communication systems, the assessment facilities and equipment, the first aid and medical facilities, and protective equipment and supplies that can be utilized during an emergency. The plan further states that SCE has established general plans to conduct recovery from potential emergencies at the SONGS ISFSI.</p>

<ul style="list-style-type: none"> • Have radiation levels and ambient temperatures been considered for flushing potential blockage? 	<p><u>Response:</u> As noted in the NRC's letter dated September 1, 2020 and the above staff response on the flood analysis, the results of the flood analysis show that the peak cladding temperature remains below the normal condition temperature limit of 400°C and far below the accident condition limit of 570°C, and all other component temperatures also remain below the normal condition limits.</p>
<ul style="list-style-type: none"> • Do procedures presently exist to remove flow blockage should a flooding event occur? 	<p><u>Response:</u> The general licensee's 72.212 report provides documentation that the ISFSI is located in an area that meets the Holtec CoC license and FSAR requirements and that the site would not be flooded such that a flooding event could cause flood water to go over the top of the ISFSI pad and reach the canisters or cause burial under debris. The NRC reviewed the general licensee's 72.212 report and determined that the UMAX ISFSI at SONGS would not be buried under debris, due to the site geography and location of the ISFSI in relation to the surrounding bluffs.</p>
<ul style="list-style-type: none"> • Are the recovery actions incorporated into existing procedures? Are recovery personnel trained and do they routinely practice these actions? 	<p><u>Response:</u> The ISFSI Emergency Plan states that SCE has established general plans described to conduct recovery from potential emergencies at the SONGS ISFSI. Recovery planning includes equipment to be repaired or replaced, licensing implications, special training requirements, Offsite support, and determination of causes and consequences. Site procedures addressing Recovery operations provide an outline for a short-term Recovery plan.</p>
